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ABSTRACT

This document presents a profile of projects funded by the University of Wisconsin System Undergraduate Teaching Improvement Grant program. Three hundred and five one-page abstracts of awards made by the program are provided that briefly summarize the original proposal and the latest results that have been drawn from the project director's reports and observations. The names, departments, and institutions of project directors are indicated, along with the current contact person. The year for which the grant was awarded and the amount are specified. Keywords that describe the subject area and methodology of the project are included. Abstracts are assembled by year of grant, and within each year, by file number. A table of abstracts contains the file number, project title, name of project director(s), and institutional code. Four indices offer guides to the abstracts by discipline or subject matter, instructional methodology, project directors' and contact persons' names; and institutions involved. Cross references are included. The history of the grant program is summarized. (SW)

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# UNDERGRADUATE TEACHING IMPROVEMENT GRANT ABSTRACTS

Undergraduate Teaching Improvement Council

September 1986

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# UNDERGRADUATE TEACHING IMPROVEMENT GRANT ABSTRACTS

(formerly entitled
Enhancement of Undergraduate Teaching:
Proposals and Results)

Abstracts of Projects Funded

by the

University of Wisconsin System

Undergraduate Teaching Improvement Grant Program

September 1986
(update)

Susan Kahn, General Editor
Undergraduate Teaching Improvement Council
1642 Van Hise Hall
Madison, Wisconsin 53706

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# Introduction

The purpose of this publication, Undergraduate Teaching Improvement Grant Abstracts, is to present a profile of projects funded, in progress, and completed under the auspices of the UW System Undergraduate Teaching Improvement Grant (UTIG) program. This publication has been designed with the hope that users will be encouraged to seek further information about projects of interest to them; for this purpose, a set of instructions on how to use the compilation of abstracts follows this Introduction.

## History of Grant Program

Late in the fall of 1971, University of Wisconsin President John C. Weaver announced the establishment of an Undergraduate Teaching Improvement Program. The program was placed under the direction of Associate Vice President Dallas O. Peterson, Office of Academic Affairs. Funds were drawn from staff reduction savings in Central Administration. The four University of Wisconsin campuses, the Center System, and Extension submitted proposals to local screening committees which in turn, forwarded proposals to Central Administration. Seventeen projects received funding and were completed during the five months that remained of the fiscal year.

Additional funds from staff reductions made possible the support of a second group of teaching improvement proposals. The ad hoc procedures used for the 1971-72 grants were repeated in the selection of the 1972-73 recipients. In this second year, faculty had eleven months to complete their projects.

The first Undergraduate Teaching Improvement Grant Program for the merged University of Wisconsin System (University of Wisconsin and Wisconsin State Universities) was chaired by David Stewart of the Office of Academic Affairs. At this time, approximately $200,000 was available for awards. The pattern of review which he and his committee set has been maintained with some revisions during subsequent years. In Fall 1973, faculty in the UW System were invited to submit proposals to review committees at their institutions. These committees screened and ranked proposals, then forwarded the most highly rated among them to the System Review Committee. The System Review Committee consisted of eight faculty drawn from Chancellor nominees; each was from a different institution and discipline to insure breadth. Almost all had received awards for teaching excellence or had been otherwise recognized as outstanding teachers. Criteria by which proposals were judged included degree of innovation, potential for application of the teaching idea elsewhere at the institution or in the System, quality of evaluation mechanisms, number of students to be served, and appropriateness of the project to the mission of the institution.

The Review Committee recommended that 21 of the 105 proposals sent forward by institutional screening committees be funded. About $40,000 of the total Grant fund remained and the Committee recommended that this amount be used to establish a System committee to be charged with disseminating the results of the funded projects to the faculty of the System as a whole. Because the UW System was entering a period of fiscal exigency, this recommendation could not be carried out.

The continuing fiscal crisis was responsible for cancellation of the 1975-76 program. However, $20,000 previously had been given to the newly organized West Central Wisconsin Consortium (WCWC) for a mini-program. A total of four projects received funding during this year. (Further information about the mini-program appears below.)

During subsequent years, approximately $180,000 has been made available to fund the Systemwide Grant program each year.

A major innovation in the 1976-77 program was the issue of a special invitation for submission of teaching improvement proposals which were interdisciplinary in scope. Because of departmental and accounting structures at most UW institutions, the development of course work which crosses disciplinary boundaries often raises special difficulties. The Grant program offered one source of funds to support a planning year free of these difficulties.

For the 1978-79 program, two new facets were added. In addition to the invitation for interdisciplinary projects, faculty with innovative approaches to the teaching of the basic liberal arts skills - composition, mathematics, problem-solving, library skills, and general study skills - were invited to seek Grant support. The second major change was the introduction of a two category division in the program. Projects to be carried out at a single institution were designated Category A proposals; those to be developed by faculty from more than one UW institution were Category B proposals. For 1981-82 a Category C to encourage development of institution-wide teaching improvement approaches was instituted.

In 1977-78, the Evaluation Committee of the Undergraduate Teaching Improvement Council (see next page) did a thorough review of the Grant program, including interviews with members of the institutional screening committees. The first round of changes recommended by the committee was put into effect for the 1979-80 program and continued monitoring has led to additional significant improvements.

## West Central Wisconsin Consortium Program

From 1975-76 through 1977-78, the West Central Wisconsin Consortium--UW-Eau Claire, UW-La Crosse, UW-River Falls, and UW-Stout--sponsored a Grant program supported by System Undergraduate Teaching Improvement Grant funds. During the first year, a total of $25,000 was available for grants; during each of the next two years, the figure was $50,000.

The WCWC program identified one or more regional teaching improvement needs and in those terms framed invitations to the faculty for proposals. During 1975-76, the focus was competency-based instruction. In 1976-77, projects were designed to offer innovative applications of educational technology to the instructional process or to concentrate in interdisciplinary studies. In order to increase the number of projects which could be funded, WCWC supplemented System funds with an additional $1,000. For 1977-78, the WCWC program invited proposals which dealt either with human values (relationships among the humanities, sciences, and technology) or with teaching and learning in liberal education (basic general education requirements).

Each WCWC institution had its own screening procedure, but for the most part used existing standing committees to screen proposals. Ranked proposals were forwarded to the WCWC Commission, which consists of the Vice Chancellors and a faculty representative from the member universities. Commission rankings and recommendations were then sent to the Trustees - the Chancellors of the WCWC universities - for final action.

Guidelines for the WCWC program stressed the importance of applicability of project results to all WCWC universities and, if possible, to other institutions throughout the UW System. Consequently, even though only one institution received funding for each project, several projects were conducted with the cooperation or on behalf of more than one WCWC university. An important result of this program was the expansion of peer contact and consultation among the WCWC institutions.

## UW System Undergraduate Teaching Improvement Council

With substantial support from the Fund for the Improvement of Postsecondary Education and additional funding from UW Central Administration and the institutions of the System, an Undergraduate Teaching Improvement Project was launched in September, 1977. Key to the Project is the UW System Teaching Improvement Council with a faculty and an administrative representative from each of the fifteen UW System institutions.

In many ways, the Council is the realization of the dissemination group proposed by the 1974-75 System Grant Review Committee. Indeed, this publication is an outgrowth of Council activities. In addition, among the first major dissemination events to be sponsored by the Council were special conferences and workshops built around several successful Grant projects. However, the scope of the Council goes beyond the Grant program. The Council is a forum for discussion of and information sharing on the great range of issues which pertain to the maintenance of quality undergraduate instruction; and an active agent in promoting events designed to foster and encourage enhanced teaching quality. With the advent of the Council, a new level of exchange has been possible on the mission which is common to all fifteen UW System institutions: the teaching of undergraduates.

## UNDERGRADUATE TEACHING IMPROVEMENT GRANT PROGRAM

## OVERVIEW OF NUMBERS OF PROJECTS FUNDED AND TOTAL FUNDING

(Numbers of projects funded each year appear in parentheses)

| Year | Source of Funds | | | Total |
|---|---|---|---|---|
| | UTIG | WCWC | Special | |
| 1971-72 | $ 167,028 ( 17) | | | $ 167,028 ( 17) |
| 1972-73 | 152,844 ( 13) | | | 152,844 ( 13) |
| 1974-75 | 160,580 ( 21) | | | 160,580 ( 21) |
| 1975-76 | | $ 27,662 ( 4) | | 27,662 ( 4) |
| 1976-77 | 185,158 ( 14) | 42,521 ( 5) | $ 27,004 ( 1) | 254,683 ( 20) |
| 1977-78 | 169,152 ( 18) | 49,903 ( 7) | | 219,055 ( 25) |
| 1978-79 | 166,075 ( 20) | | 21,487 ( 2) | 187,562 ( 22) |
| 1979-80 | 166,071 ( 23) | | 18,287 ( 3)* | 184,358 ( 26) |
| 1980-81 | 179,482 ( 22) | | | 179,482 ( 22) |
| 1981-82 | 180,000 ( 25) | | | 180,000 ( 25) |
| 1982-83 | 211,811 ( 22)** | | | 211,811 ( 22) |
| 1983-84 | 179,865 ( 22) | | | 179,865 ( 22) |
| 1984-85 | 167,411 ( 21) | | | 167,411 ( 21) |
| 1985-86 | 180,000 ( 21) | | | 180,000 ( 21) |
| 1986-87 | 180,300 ( 22) | | | 180,300 ( 22) |
| | $2,445,777 (281) | $120,086 ( 16) | $ 66,778 ( 6) | $2,632,641 (303) |

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* Part of this funded by an Undergraduate Teaching Improvement Grant.
**One project in this group actually received special funding in 1981-82.

# HOW TO USE THIS PUBLICATION

## I. Abstracts

One page abstracts of all awards made with Undergraduate Teaching Improvement Grant funds are included in this publication. Each abstract briefly summarizes the original proposal and the latest results which have been drawn from the project director's reports and observations. The names, departments, and institutions of project directors anad current contact persons appear at the bottom of the abstract page, together with the year for which the grant was awarded and the amount. For the benefit of those who wish to browse through the publication, keywords which describe the subject area and methodology of the project appear at the bottom of the page.

### A. Organization of Abstracts

Abstracts have been printed in chronological order on punched paper so that they may be stored in loose-leaf binders. They have been assembled by year of grant, and within each year, by file number. File numbers appear in the upper left-hand corner of the abstract and are a code that indicates year of award and file order as follows: 712001, 712002, etc.; that is, grants awarded in 1971-72 and stored first and second in the Undergraduate Teaching Improvement Grant file. Grants awarded in 1972-73 are coded 72300n, those awarded in 1974-75, 74500n and so forth through the current year. Those with file numbers beginning 712 and 723 are the pre-merger grants, and those marked 745 through 867 are post-merger grants. There is no series for fiscal year 1973-74. The loose-leaf format is designed to allow ready substitution of latest reports and additional explanatory material once a year.

### B. Further Information About Projects

The department and campus affiliations of the project directors are listed and a zip code directory for the UW System institutions appears at the end of this introduction so that interested users may write for further information. In cases in which project directors have left the System, a current contact at the institution has been designated whenever possible, and in a very few cases, addresses of those who have left the System but are willing to correspond with interested individuals appear. A list of inactive projects by file number appears below.

## II. Table of Abstracts and Indices

### A. Table of Abstracts

The primary source of information about the abstracts included in this publication is the Table of Abstracts, which contains the file number, project title, name of project director(s), and institutional code.

### B. Indices

There are four indices which offer guides to the abstracts by discipline or subject matter; instructional methodology; project directors' and contact persons' names; and institutions involved. The indices list only the project file numbers; for project title, see the Table of Abstracts. Cross-references have been used extensively in the first two indices.

## III. Inactive Projects

Projects which are no longer active include the following:

712001
712003
712005
712008
712009
712013
712017
723002
723003
723005
723008
723009
723012
723013
745003
745004
745006
745009
745016
745017
745019
756002
756003
756004
767003
767004
767009
767013
767016
767017
767021
778006
778008
778012
778022
778024
789001
789002
789012
789014
789016
789017
789018
789019
789021
790008
790012
812002
823021

Please note that in many cases, a project has evolved or led to a new activity. Projects which have taken on a new form or generated a new activity, even though not active in their original form, are not included in this listing.

## ABBREVIATIONS AND CODES

### File Number Codes

| | |
|---|---|
| 7120xx | Grants awarded for 1971-72 |
| 7230xx | Grants awarded for 1972-73 |
| 7450xx | Grants awarded for 1974-75 |
| 7560xx | Grants awarded for 1975-76 |
| 7670xx | Grants awarded for 1976-77 |
| 7780xx | Grants awarded for 1977-78 |
| 7890xx | Grants awarded for 1978-79 |
| 7900xx | Grants awarded for 1979-80 |
| 8010xx | Grants awarded for 1980-81 |
| 8120xx | Grants awarded for 1981-82 |
| 8230xx | Grants awarded for 1982-83 |
| 8340xx | Grants awarded for 1983-84 |
| 8450xx | Grants awarded for 1984-85 |
| 8560xx | Grants awarded for 1985-86 |
| 8670xx | Grants awarded for 1986-87 |

| | |
|---|---|
| A | Projects directed by one or more faculty at a single institution and focusing on a single teaching issue |
| B | Interinstitutional cooperation: direct participation by faculty from more than one institution in a project funded through the Systemwide program |
| WC | West Central Wisconsin Consortium Grant: project funded through West Central Wisconsin Consortium Undergraduate Teaching Improvement Grant Program |
| S | Special grant award: one-time System Administration support with Grant funds of a teaching improvement project with special implications for interinstitutional cooperation |
| C | Projects designed to improve instruction, affecting a large segment of the faculty of the institution. |

(Note: The codes A, B, WC, S, and C appear with the file number only on the abstract, not in the indices.)

### Abbreviations used in the Table of Abstracts

| | | | |
|---|---|---|---|
| System Administration | ADM | Centers | CTR |
| UW-Extension | EXT | UW Center-Baraboo/Sauk County | BRB |
| UW-Eau Claire | EAU | UW Center-Barron County (Rice Lake) | BRN |
| UW-Green Bay | GBY | UW Center-Fond du Lac | FDL |
| UW-La Crosse | LAC | UW Center-Fox Valley (Menasha) | FOX |
| UW-Madison | MSN | UW Center-Manitowoc County (Manitowoc) | MAN |
| UW-Milwaukee | MIL | UW Center-Marathon County (Wausau) | MTH |
| UW-Oshkosh | OSH | UW Center-Marinette County (Marinette) | MNT |
| UW-Parkside | PKS | UW Center-Marshfield/Wood County | MSF |
| UW-Platteville | PLT | UW Center-Richland (Richland Center) | RLN |
| UW-River Falls | RVF | UW Center-Rock County (Janesville) | RCK |
| UW-Stevens Point | STP | UW Center-Sheboygan County (Sheboygan) | SHB |
| UW-Stout | STO | UW Center-Washington County (West Bend) | WSH |
| UW-Superior | SUP | UW Center-Waukesha County (Waukesha) | WAK |
| UW-Whitewater | WTW | Systemwide position | SYS |

## Update Code

On the lower left-hand side of the abstract page, the word UPDATE appears, followed by a date. The date refers to the most recent correspondence or new information received from the project director about the project and reflected in the abstract.

## Descriptors

The descriptors at the lower left-hand corner of the abstract page represent categories of disciplines and instructional methodology into which the project falls. Descriptors preceded by an asterisk are disciplinary; the project is listed in INDEX A under those disciplines. Descriptors not preceded by an asterisk are methodological; the project is listed in INDEX B under those instructional methods or techniques.

## UW System Zip Code Directory

### Universities

UW-Eau Claire 54701

UW-Green Bay 54302

UW-La Crosse 54601

UW-Madison 53706

UW-Milwaukee 53201

UW-Oshkosh 54901

UW-Parkside, Kenosha 53141

UW-Platteville 53818

UW-River Falls 54022

UW-Stevens Point 54481

UW-Stout, Menomonie 54751

UW-Superior 54880

UW-Whitewater 53190

### Centers:

UWC-Baraboo/Sauk County, Baraboo 539132

UWC-Barron County, Rice Lake 54868

UWC-Fond du Lac 54935

UWC-Fox Valley, Menasha 54952

UWC-Manitowoc County, Manitowoc 54220

UWC-Marathon County, Wausau 54401

UWC-Marinette County, Marinette 54143

UWC-Marshfield/Wood County, Marshfield 54449

UWC-Richland, Richland Center 53581

UWC-Rock County, Janesville 53545

UWC-Sheboygan County, Sheboygan 53081

UWC-Washington County, West Bend 53095

UWC-Waukesha County, Waukesha 53186

UW-Extension
432 North Lake Street
Madison 53706

UW-Centers
149 N. Frances Street
Madison 53703

# TABLE OF ABSTRACTS

## UW SYSTEM UNDERGRADUATE TEACHING IMPROVEMENT GRANTS

## TABLE OF ABSTRACTS

| Project File Number | Project Title (Project Director(s)-Institution) |
|---|---|
| | **1971 - 72** |
| 712001 A | Parkside Keller Plan Project (W. R. Morrow - PKS) |
| 712002 A | Development of Video Tutorial Units: Changing Nutritional Needs (E. McIntosh - GBY) |
| 712003 A | A Laboratory/Research Method for Teaching Biology (R. J. Stevens, E. Langlois - GBY) |
| 712004 A | Innovative Approaches for Enhancing the Quality of Teaching Undergraduate Chemistry (B. Z. Shakhashiri - MSN) |
| 712005 A | Urban Core Rehabilitation Project Workshop (D. J. Stith, J. A. Graaskamp - MSN) |
| 712006 A | Construction of a Drainage-Sedimentation-Wave Basin Model (N. P. Lasca, R. G. Pirie - MIL) |
| 712007 A | Creation and Equipping of an Environmental-Sanitary Engineering Laboratory (V. W. Bacon - MIL) |
| 712008 A | The Faces of Africa--Instructional Modules for Study of the African Continent (W. G. Kuepper - GBY) |
| 712009 A | Establishment of a Societal Model Laboratory (M. R. Leavitt, R. Li - MSN) |
| 712010 A | A Proposal to Enhance the Instructional Effectiveness of Teaching Assistants (W. L. Hansen - MSN) |
| 712011 A | Coordinated Study of Instructional Aids for Innovative Teaching (D. B. Johnson - MSN) |
| 712012 A | Freshman Seminar Program, College of Letters and Science (N. Riemer - MIL) |
| 712013 A | An Interdisciplinary Research Project for Undergraduates (K. H. Flaming, E. Hayes - Mil) |
| 712014 A | Team Teaching of Acting Courses, Department of Theatre Arts (R. Gural, T. Nicholson - MIL) |

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| Project File Number | Project Title (Project Director(s)-Institution) |
|---|---|
| 712015 A | Program of Three Interdisciplinary Courses--Styles of Expression: the Arts and Technology (J. E. Frisch, T. Abeles - GBY) |
| 712016 A | Strengthening Campuswide Audio-Visual Skills at Marshfield (N. E. Koopman - MSF) |
| 712017 A | Curriculum Development of a Freshman Course on the Elements of Modeling (W. L. Sadler - WAK) |
|  | 1972 - 73 |
| 723001 A | Freshman Seminar Program, College of Letters and Science (F. X. Baron - MIL) |
| 723002 B | The Development of Probation/Rehabilitation Aides: A Program for Prison Inmates and Parolees (O. Jensen - EXT; R. Scheurell - MIL) |
| 723003 A | The Development of Contemporary Ideas Modules in the Life Sciences (J. S. Balsano - PKS) |
| 723004 A | Applied Mathematical Optimization Techniques (R. B. Wenger, C. R. Rhyner - GBY) |
| 723005 A | A Modular or Individualized Approach to Teaching First Year French (S. Toenes - WAK, J. Chevalier - MTH) |
| 723006 A | Software for Instructional Media Center (C. E. Sherman - MSN) |
| 723007 A | Capital Equipment Purchase of Complete Videotape Recorder and Playback Unit (H. E. Felsenfeld - MIL) |
| 723008 A | American Documentary Theater (P. Mann - GBY) |
| 723009 A | Course and Instructor Evaluation Report (K. V. Fritz, R. S. Thrush - MSN) |
| 723010 A | Self-Paced Learning in Introductory Anthropology (J. Van Willigen, R. Stoffle, M. Mochon - PKS) |
| 723011 A | Development of Human Relations Skills for Teacher Trainees Through a Modified Microteaching Program (D. Sadker, M. Sadker - PKS) |
| 723012 A | Videotaping a Pre-Architecture Orientation Course for Distribution as a Credit Course at Various Units of the University of Wisconsin System (T. McGinty - MIL) |

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| Project File Number | Project Title (Project Director(s)-Institution) |
|---|---|
| 723013 A | A Proposal to Study the Effects of Modular Curriculum on the UW Center System (D. E. Meyer - WAK) |
| | 1974 - 75 |
| 745001 A | Development of an Interdisciplinary Aesthetic Education Center (I. J. Brown, P. Clark, C. LeBreck - RVF) |
| 745002 A | An Interdisciplinary Media Approach to Composition (R. Ellis - WTW) |
| 745003 A | "Future Worlds:" An Interdisciplinary Course on the Future (G. A. Klee - SUP) |
| 745004 A | Self-Paced Instructional Packages on Utilizing Library Resources (B. Howison - STO) |
| 745005 A | A Practicum Program for Elementary Education Majors (B. Allar - STP) |
| 745006 A | Preparation of 15 Laboratory Experiences for Water 180, "Introduction to Water Resources" (I. L. Korth - STP) |
| 745007 A | Improvement of Laboratory Instruction in General Zoology and Vertebrate Embryology Through Use of Amphibian Larvae, and Adult Mammals (J. C. Naughten - EAU) |
| 745008 A | Proposal to Improve, Develop and, Implement Experiments in the Laboratory Portion of the Bio-General Physics Course (W. W. Sukow, N. H. Procknow - RVF) |
| 745009 A | Calculus: A More Flexible Approach (N. Stahl, L. Espenscheid - MNT) |
| 745010 A | Videotape Demonstrations of Sound Generations and Basic Principles of Sound Measurement (R. S. Karlovich - MSN) |
| 745011 A | "Ocean Sciences Laboratory" (R. G. Pirie - MIL) |
| 745012 A | Integrating Several Introductorv Physics Courses into a Set of Individualized Half-Credit Modules (S. Fossum, A. Hilgendorf, M. Larchez - STO) |
| 745013 A | The Creation of Video and Audio Cassette Recordings to be Used as Instructional Modules in the Production Aspects of Television (R. G. Lawson - MSN) |

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| Project File Number | Project Title (Project Director(s)-Institution) |
|---|---|
| 745014 A | A Self-Pacing Program for English Composition (W. Graffin, P. Martin - PKS) |
| 745015 A | Political Science Internships (D. W. Tarr - MSN) |
| 745016 A | Utilization of Parent-Educator Teams in Teaching for a Multicultural Society (M. J. Happel - PKS) |
| 745017 A | An Experimental Course in the Principles of Economics (L. A. Daellenbach, R. E. Schoenberger, W. E. Wehrs - LAC) |
| 745018 A | A Teacher Training Program for Graduate Teaching Assistants in Economics (L. M. Schur, G. R. Meadows - MIL) |
| 745019 A | An Integrated Program for Undergraduate Studies of Urban Public Policies (R. A. Hanson, E. Browne - MIL) |
| 745020 A | "The City Through Time and Space" (T. Bender - GBY) |
| 745021 A | CHEM TIPS: Individualized Instruction in Large Chemistry Courses (B. Z. Shakhashiri - MSN) |
|  | 1975 - 76 |
| 756001 WC | Development of Competency Statements and Precise Instructional Objectives for Educational Psychology (V. Peter, H. Misfeldt, G. Yeast - STO) |
| 756002 WC | A Conference for the College of Education to Develop a Competency Based Model Within the Professional Core Curriculum (C. L. Rood, E. Bressan - LAC) |
| 756003 WC | Professional Staff Development to Investigate the Transportability of Mediated Program Developments Between the Member Institutions of the Indianhead Higher Education Media Council (D. P. Barnard - STO) |
| 756004 WC | The Development of a Competency Based Learning System for Intermediate Algebra and Trigonometry (B. E. Sparks, L. Wahlstrom - EAU) |
|  | 1976-77 |
| 767001 A | Development and Statewide Dissemination of a Skills Competency Program in Scoring Deviant Articulation (L. D. Shriberg - MSN) |

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| Project File Number | Project Title (Project Director(s)-Institution) |
|---|---|
| 767002 A | "Introduction to Ocean Sciences" (R. G. Pirie - MIL) |
| 767003 A | An Interdisciplinary Technology and Culture Program (P. Warrick - FOX) |
| 767004 A | Development of an Interdisciplinary Course in Consumer Economics (C. C. Jacobsen, A. O. Barsness - STP) |
| 767005 A | Summer Laboratory Short Course and Ecology Laboratory (D. W. Davidson, L. A. Kapustka - SUP) |
| 767006 A | Integrated Liberal Studies Program (E. Fulton - WTW) |
| 767007 A | Subject Matter Diversification Through Modular Instruction (Organic Chemistry) (J. R. Klink - EAU) |
| 767008 A | Design for a Writing Skills Laboratory (D. W. Larmouth - GBY) |
| 767009 A | Earth-Sun Relations: CAI Programs for Earth Science (J. N. Hoefer - LAC) |
| 767010 A | Establishment of a Cooperative Academic Placement Program (P. A. Inciong - OSH) |
| 767011 A | Development of Black Dialect Instructional Materials (D. German, L. Bonner - PKS) |
| 767012 A | The Writing Library as a Practicum (R. Beck - RVF) |
| 767013 A | Carnival: A Celebration of the Human Community (R. Blau - MIL) |
| 767014 B | Cooperative Undergraduate Program Development in Architecture and Urban Planning Among Urban Consortium Schools (T. McGinty - MIL; R. K. Baba - GBY; R. Medlock - OSH) |
| 767015 WC | A General Simulation of a Basic Materials Industry (R. Decker, S. J. Allen, F. Waedt - EAU) |
| 767016 WC | The Development and Evaluation of a Strategy to Reduce the Failure Rate in Large University Courses Integrating Audio-Computer-Tutorial Instruction (P. D. Sparks - LAC) |
| 767017 WC | PLANIT Implementation and CAI Courseware for Computer Science (L. A. Larsen - EAU) |

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| 767018 WC | Development of a Physics Course for Pre-Professional Students in the Life Sciences: An Innovative Interdisciplinary Approach (W. W. Sukow - RVF) |
| 767019 WC | Prescriptive Diagnostic Teaching: An Innovative Application of Educational Technology to the Instructional Process (C. T. Cameron - STO) |
| 767020 S | An Inter-Institutional and Interdisciplinary Introduction to Latin American Studies (R. Cortina - MIL; R. Knowlton - STP; W. Wussow - EAU) |
| 767021 B | Cooperative Development of "Environmental Problems and Decisions" (J. Gueths - OSH) |
|  | 1977 - 78 |
| 778001 A | Chemistry, Clay, and Pottery Students (A. A. Denio, R. W. Joslin - EAU) |
| 778002 A | Milwaukee as a Laboratory for Instruction in Urban and Regional Theory: Tours on Videotape (W. P. Farmer - MIL) |
| 778003 A | Organic Chemistry Laboratory for Health Science Majors (J. M. Cook. - MIL) |
| 778004 A | Using Short-Wave Radio Reception of French Language Broadcasts in Undergraduate Conversation and Culture Courses (A. A. Ciccone - MIL) |
| 778005 A | Creation and Use of Video Tapes of Aphasics in Teaching the "Aphasia in Adults" Course (R. R. Leutenegger - MIL) |
| 778006 A | "Introduction to the Social Sciences" Course (K. Voelker - OSH) |
| 778007 A | Advanced Composition for Prospective High School English Teachers and University Writing Laboratory (D. Kilday - OSH) |
| 778008 A | Problem-Solving Strategies with Computer-Assisted Exercises (D. Piele, L. Wood - PKS) |
| 778009 A | Extension of Bibliographic Research Module Developed for History to the Disciplines of Political Science and Sociology (C. J. Stoffle, S. Karter - PKS) |
| 778010 A | A Mnemonic Guidebook for the Student of Calculus Level Physics (L. Kurzweg - PLT) |

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| 778011 A | A Series of Integrated Laboratory Experiences Interfacing Nuclear Chemistry with the Agricultural, Biomedical, and Environmental Sciences (M. V. Keenan - RVF) |
| 778012 A | A Cumulative Reading Improvement Program, College of Natural Resources (H. M. Cornell - STP) |
| 778013 A | An Audio-Visual Supported Laboratory Manual for "Introductory Forest Resources" (N. E. Spangenberg - STP) |
| 778014 A | Market TIPS: Individualized Instruction in Undergraduate Marketing Courses Through the Use of Teaching Information Processing Systems (E. Vitale - WTW) |
| 778015 A | Interdisciplinary Women's Studies Program (A. Krouse - WTW) |
| 778016 B | Implementation of TIPS in the Teaching of Undergraduate Science Courses at UW System Campuses (R. R. Roskos - LAC; B. Z. Shakhashiri - MSN) |
| 778017 B | Development of "Geology of Wisconsin" Course to be Taught in the Field During Spring Interim or Summer Session (G. L. LaBerge - OSH) |
| 778018 A | A Bikehike'ski into Environmental Problems (R. F. Hale - RVF) |
| 778019 WC | Prescribed Learning Activities Based on Piaget's Theory of Cognitive Development (A. Hilgendorf, M. Larchez - STO) |
| 778020 WC | An Analysis of Outstanding Lower Division Literature Programs Among Open Admission Universities in the Midwest and Implications for WCWC Institutions (S. Beckham - STO) |
| 778021 WC | The Integration of Values Education and Academic Disciplines (V. Peter, R. Peter - STO) |
| 778022 WC | West Central Wisconsin Consortium Arts Exchange (D. Nitz - RVF) |
| 778023 WC | Composition/American Studies, an Interdisciplinary Basic Studies Course (J. DeMuth - RVF) |

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| 778024 WC | The Early Identification of Potential Academic Failures in Large General Education Courses Using a Combination of Intellectual and Non-Intellectual Predicators of Academic Performance (P. Sparks - LAC) |
| 778025 WC | A Modular Approach for Elementary Statistics (E. E. Gotter - EAU) |
| | **1978 - 79** |
| 789001 A | Peer-Assisted Teaching Improvement Project (N. Dougherty, J. Whooley - EAU) |
| 789002 A | A Multi-Method Instructional Approach to Organic Chemistry (J. R. Klink - EAU) |
| 789003 A | A Proposal to Improve Students' Comprehension of Fundamental Geologic Concepts Through the Use of Satellite-Derived Imagery (J. R. Wilson - EAU) |
| 789004 A | Elementary Statistics with Exploratory Data Analysis - (T. A. Aiuppa, A. J. Ross - LAC) |
| 789005 A | The Preparation of Study Films Designed for Facilitating the Acquisition of Skill in the Observation and Assessment of the Motor Development of Young Children (L. E. Halverson - MSN) |
| 789006 A | A Proposal to Improve the Effectiveness of Undergraduate Instruction in Certain Business School Courses Through the Use of an Interactive Display System and Computerized Mathematical Models (C. E. Stanley - MSN) |
| 789007 A | Adult Entry Model (T. Herzing - OSH) |
| 789008 A | Integration of Government Document Resources into Course Work (G. J. Krueger - OSH) |
| 789009 A | Development of Audio-Tutorial Modules to Improve Basic Skills in Data Presentation, Interpretation, and Analysis (J. S. Balsano - PKS) |
| 789010 A | Laboratory Experiences for an Undergraduate Course in the Physics of Musical Acoustics (C. O. Larson, W. Abbott, Jr. - RVF) |
| 789011 A | Bibliographical Training as an Integral Part of Instruction in Geology (J. W. Travis, R. F. Moratz - WTW) |

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| 789012 A | Improvement in Microbiology Teaching at the Introductory Level (M. L. Kalil, A. D. Parker - WAK; R. D. Pinney- - MSF) |
| 789013 A | Interdisciplinary Physical Geography Laboratory Manual (C. H. Helgeland - BRB) |
| 789014 A | Computer-Programmed Instruction in Elements of Grammar for Students with Remedial Problems in Writing (D. Kilday, G. Kriewald - OSH) |
| 789015 A | Computer-Aided Instruction in Math and English Composition in Parkside's Collegiate Skills Program (S. R. Filippone - PKS) |
| 789016 A | Basic Mathematics Skills Revisited (M. Mitchell, F. Tufte - PLT) |
| 789017 A | A Math Laboratory Approach to Teaching Basic Skills in Mathematics (G. Klatt - WTW) |
| 789018 B | Workshop for Improvement of Instruction in General Education Astronomy Courses (R. C. Bless - MSN; F. D. Stekel - WTW) |
| 789019 B | Development of Writing Sample Tests and Reliable Evaluation Procedures (V. R. Bahe - MIL) |
| 789020 B | Systemwide Bibliographic Instruction for Women's Studies (E. Stineman - SYS) |
| 789021 S | Resolving Math Anxiety: A Proposal (R. Simons - GBY) |
| 789022 S | A Project to Coordinate Teaching Improvement Activities for Graduate Teaching Assistants in the Doctoral Cluster (O. T. Myers - MIL; B. H. Mathews - MSN) |
| | **1979 - 80** |
| 790001 A | Developmental Reading Activity Modules (R. Mortaloni - EAU) |
| 790002 A | A Modular Approach to Business and Economics Research and Communication (W. E. Wehrs - LAC) |
| 790003 A | Computerized Engineering Professional Training and Evaluation Review (CEPTER) (G. Nadler - MSN) |
| 790004 A | Diagnostic Feedback in a Large Introductory Child Development Course (W. P. Dickson - MSN) |

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| 790005 A | An Approach to Clinical Practice for Nursing Students in a Wellness Oriented System (S. Riesch, E. Felder, C. Stauder - MIL) |
| 790006 A | Utilizing the "Guided Design" Approach to Facilitate Teaching Two Low Enrollment Three-Credit Courses as a Single Three-Credit Course at UW-Oshkosh (S. C. Willmington - OSH) |
| 790007 A | Integrating Academic and Field Experiences in Two Behavioral Science Practica (D. F. Barone, J. E. McKeown - PKS) |
| 790008 A | A General Interdisciplinary Science Course for Non-majors (F. Behroozi, K. Cashion, J. Shea, E. Wallen - PKS) |
| 79C009 A | Development of a Communication Competence Assessment Instrument for Parkside's Basic Skills Program (R. B. Rubin - PKS) |
| 790010 A | A BUSTIPS for the UW System - A Computer-Based Aid for Teaching First Year Accounting (D. C. Aabel - RVF) |
| 790011 A | The Development of a General Microbiology Laboratory Manual in a Competency-Based Format for Students in Food-Related Majors (G. H. Nelson - STO) |
| 790012 A | Evaluation and Course Development for Competency-Based Writing Modules (L. Hertzel, C. Petroske - SUP) |
| 790013 A | Genetics: Biological, Psychological, and Philosophical Implications (R. Bermant, E. Braun, J. Knight, D. Skryja - WAK) |
| 790014 A | An Interdisciplinary Enrichment Proposal for History and Art Survey Courses (J. Bower, M. Loft - RLN) |
| 790015 A | Instructional Module on the Changing Voice (A. L. Barresi - MSN) |
| 790016 A | Computer-Assisted Instruction in French: Verbs (S. Soares - RVF) |
| 790017 A | Field Geology in the Black Hills: An Alternative to Traditional Summer Programs in Earth Science Field Methods (W. S. Cordua - RVF) |
| 790018 A | Writing Analysis Exercise (J. DeMuth, S. Steiner - RVF) |

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| Project File Number | Project Title (Project Director(s)-Institution) |
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| 790019 B | The Development of a Videotape Library for Student Observations in Music Education Methods Classes at UW-Milwaukee and UW-Madison (W. R. Schmid, G. McKenna - MIL; E. B. Meske, G. Olson - MSN) |
| 790020 B | Making Women Artists Known Through Oral History (E. Lauter - GBY; V. Crane - OSH; R. I. Skalitzky -MIL) |
| 790021 A | Utilizing Color Microfiche for Analyzing Children's Works of Art (V. D. Kendrick, C. Rood - LAC) |
| 790022 A | A Proposal for an Automatic Monitoring System in the Teaching of Sightsinging (B. Benward - MSN) |
| 790023 A | Laboratory Courses in Chemical Instrumentation (B. Murray - RVF) |
| 790024 S | The Development of a UW System Mathematics Placement Test (B. E. Sparks - EAU) |
| 790025 S | Cultural Encounters Media Project (R. Bartley, J. Smith, J. Gray - MIL) |
| 790026 S | Project on Interactive Exhibitry (W. Sukow - RVF) |
| | 1980-81 |
| 801001 A | A Programed Study Aid for Solving Problems in Undergraduate Advanced Organic Chemistry (P. Chenier - EAU) |
| 801002 A | Laboratory Exercises: Introductory Course in Solar Energy (A. K. Mehra - GBY) |
| 801003 A | Pre-Laboratory Quiz by Computer for Organic Chemistry (R. Starkey - GBY) |
| 801004 A | Mediated English History Components for English Literature Survey (M. W. Murphy - GBY) |
| 801005 A | Music Appreciation Lecture/Recital (D. A. Weekley - LAC) |
| 801006 A | Tutorial Tapes for Individualized Instruction in Intermediate Algebra (J. D. Wine, M. Olan - LAC) |
| 801007 A | Improving the Laboratories of Three Meat and Animal Science Courses by Developing Eight Video Tapes (R. G. Kauffman, J. V. Lochner - MSN) |
| 801008 A | A Video Tape Program of Clinical Observations in Speech, Language and Hearing Problems (D. E. Yoder, G. D. Gill - MSN) |

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| 801009 A | Interactive Digital Computing for Chemistry Courses (R. F. Howe - MIL) |
| 801010 A | Base Friction Model Device for Civil, Geological, and Mining Engineering Instruction (P. Sundaram - MIL) |
| 801011 A | Interactive Computer Simulations in an Advanced Biology Laboratory (M. T. Marron, E. M. Goodman - PKS) |
| 801012 A | Development of Basic Research Writing Skills Workbook for Collegiate Skills Program (C. L. Saffioti, P. Berge - PKS) |
| 801013 A | A Concentrated Semester in Renaissance Studies and Shakespearean Drama--Spring Semester 1981 (T. S. Goltry - PLT) |
| 801014 A | Communicative Disorders: Undergraduate Interaction with Professionals in a Variety of Clinical Settings (P. A. Hayden, N. Jordahl - RVF) |
| 801015 A | Computer Assisted Instruction in Introductory Sociology (C. Mottaz - RVF) |
| 801016 A | Development of Instructional Packages in Observational Astronomy at UW-River Falls (W. Sukow, J. Shepherd, W. Campbell - RVF) |
| 801017 A | Software Adaptation and Development for Implementing Instruction in Computer Cartography (C. G. Barrett - RVF) |
| 801018 A | Interdepartmental Analysis and Revision of Physics 201 Laboratories (R. A. Lokken, F. L. Schmitz - STP) |
| 801019 A | Microcomputers for Self-Tutoring in Chemistry (C. H. Schmid, R. A. Sommers - STP) |
| 801020 B | Craniofacial Anomalies Videotape Sequence for Improvement of Instruction in Speech Pathology (D. Bless, S. Ewanowski, - MSN; M. Krival - WTW; W. H. Meyer - STP) |
| 801021 B | Poets in Wisconsin: Videotape Series (W. Harrold - MIL; A. McLean - PKS; R. Schuler - STO; W. Werner - MIL) |
| 801022 B | The Effective Use of Chemical Demonstrations in Teaching Undergraduate Chemistry Courses in the UW System (B. Z. Shakhashiri - MSN) |

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| | **1981 - 82** |
| 812001 A | The Development of a Novel Course in Undergraduate Industrial Chemistry (P. Chenier - EAU) |
| 812002 A | A Proposal for a Study of a Small Group Discovery Laboratory Approach to Teaching Mathematics to Prospective Elementary School Teachers (D. Kalman - GBY) |
| 812003 A | Time Duration Visual Media (J. Dell - GBY) |
| 812004 A | An Evaluation of a Peer Group System for Basic Speech Instruction (T. Daniels - GBY) |
| 812005 A | A Collation of Fingerings in Pedagogical Literature for Piano (E. Burmeister - MSN) |
| 812006 A | Preparation of Language Tapes for Russian 101-102 (H. Marquess - MSN) |
| 812007 A | Videotaped Clinical Observations in Occupational Therapy (A. Punwar - MSN) |
| 812008 A | Visual Aids for Curricular Development in German Culture Studies (J. Steakley - MSN) |
| 812009 A | Facilitating Access to Teaching Materials in Braille for Blind Students and Staff (E. Desautels - MSN) |
| 812010 A | Microcomputer-Based Introduction of Computer Graphics for the Undergraduate (J. McNeary - MSN) |
| 812011 A | Literacy, Development, and Social Change: Nicaraguan Case Study (R. Bartley, R. Cummings, J. Gray, J. Smith, MIL) |
| 812012 A | The Global Negotiation Exercise (L. Gould - MIL) |
| 812013 A | Computer Assisted Instruction in Music Theory (J. Minniear - OSH) |
| 812014 A | Simulations of Clinical Situations in Nursing (M. Coluccielio, B. Prybyski - OSH) |
| 812015 A | Wisconsin-Based Curriculum in Environmental Geology (C. Fetter - OSH) |
| 812016 A | Computer Simulations in Mathematics (D. Piele - PKS) |

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| 812017 A | Improving Students' Ability to Read and Play Score-Form Music at the Piano (F. Bedford, PKS) |
| 812018 A | Modern Inorganic Chemistry in the Laboratory (R. Langley - RVF) |
| 812019 A | An Interdisciplinary Program for the Reinforcement of Writing Skills Across the Curriculum (D. Pattow, STP) |
| 812020 A | High Performance Liquid Chromatography Laboratory Experiences in Environmental Chemistry, Food Chemistry, and Instrumental Analysis (M. Ondrus - STO) |
| 812021 A | Humanities Discussion Booklets for American History Survey Classes (M. O'Brien - FOX) |
| 812022 B | Production of an Audio-Visual Slide Presentation on the Methodology of Sampling of Organic Vapors from Air of the Working Environment and Analysis by Gas Chromatograph (B. Samimi - PKS, K. Erickson, R. Nelson - EAU) |
| 812023 B | UW Madison/UW Center System/UW Stout/Women's Studies Seminar: A Project for Curricular and Pedagogical Enhancement (E. Marks - MSN, W. Face - STO, R. Berke - CTR) |
| 812024 C | Center for the Improvement of Instruction (A. Ciccone - MIL) |
| 812025 C | Pilot Teaching Excellence Center (J. Hein - OSH) |
| | **1982 - 83** |
| 823001 A | The Development of an Interdisciplinary Course in the History of Graphic Design and Communication (E. Teikari - GBY) |
| 823002 A | Improvement of Instruction for Developmental Psychology: A Model Using Videotapes for Fieldwork Training (H. Gardiner - LAC) |
| 823003 A | Improvement of Level of Undergraduate Instruction in Neurophysiology (B. Bavister - MSN) |
| 823004 A | Development of Videotapes for Basic Loom Weaving (J. Marquess Carey - MSN) |
| 823005 A | Orientation Workshop to Train Teaching Assistants in UW-Madison's Foreign Langugage Departments (C. Knop - MSN) |

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| 823006 A | The Beginning Language Sequence in German: Restructured (R. Jones and J. Moore - MIL) |
| 823007 A | Proposal to Construct and Compile a Set of Problems for Use in Introductory and Intermediate Linguistics Courses (F. Eckman, and P. Connell - MIL) |
| 823008 A | Library Instruction for Use of Legal Materials by Undergraduates (D. Campbell - OSH) |
| 823009 A | Production of a Language Lab Tape Program for First Semester French (C. Magnier Cordero and S. Swanson - OSH) |
| 823010 A | Development and Delivery of a "Generic" Introductory Management Course: An Integrative Approach to Teaching Management to Business and Public Administration Undergraduates (W. Murin and J. Polczynski - PKS) |
| 823011 A | Development of an Experimentorium at UW-River Falls (W. Sukow - RVF) |
| 823012 A | Interdepartmental Analysis and Revision of Physics 202 Laboratories (R. Beeken and F. Schmitz - STP) |
| 823013 A | Providing Media Resources for the Basic Theatre Courses (G. Hedahl - WTW) |
| 823014 A | Computers Across the Curriculum (W. Wresch - MNT) |
| 823015 B | Writing Across the Curriculum in the West Central Wisconsin Consortium (WCWC) (W. Clark - EAU) |
| 823016 B | Intercultural Education: European Immigrants/Racial Minorities (J. Buenker - PKS, R. Podeschi - MIL) |
| 823017 B | Farm Business Simulation Model (J. Ambrosius - PLT; R. Klemme - MSN) |
| 823018 C | Establishing Campus-Wide Instructional Development Teams Through the Study of Student Learning Style (V. Peter - STO) |
| 823019 C | Intersections (T. Hartman and L. Hertzel - SUP) |
| 823020 A | A Comprehensive Instructional Program in Statistics and Research Methods Using Computer Assisted Modules (D. Walter - PKS) |

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| 823021 A | Development of an Introductory Chemistry Course with a Microcomputer Assisted Laboratory Program (W. Mueller and M. Orfield - STO) |
| 823022 B | Production of an Audio-Visual Slide Program on the Methodology of Sampling and Analysis of Heavy Metals from Air and Analysis by Atomic Absorption (B. Samimi - PKS) |
|  | **1983 - 84** |
| 834001 A | Art Media and Methods: The Nature and Properties of Materials (Allen A. Denio and Stephen R. Katrosits - EAU) |
| 834002 A | Design Education: Development of Facilities, Materials, and Methods to Enhance Analyses of Spatial Interrelationships and Design Elements (William R. Niedzwiedz and Ronald Baba - GBY) |
| 834003 A | Modernization of an Instructional Program in Cartography Through Computer-Assisted Mapping (Dean G. Wilder - LAC) |
| 834004 A | Interdisciplinary Writing at La Crosse (Lonny Winrich, Sonja Schrag and Terry Beck, LAC) |
| 834005 A | Interdepartment Program for Teaching Assistant Training in the Biological Sciences (Wayne M. Becker, Grant Cottam, Walter S. Plaut - MSN) |
| 834006 A | Computer Aided Tutorial Help to Supplement Large Lectures in Engineering Mechanics 201-Statics (Alois L. Schlack - MSN) |
| 834007 A | Case Studies in Occupational Therapy-Interactive Videotapes (Katherine King, Franklin Stein, John Edward White - MIL) |
| 834008 A | Tutorial Program in Classical Greek Morphology (David D. Mulroy - MIL) |
| 834009 A | Developing an Effective Mechanism for Assessing Previously Acquired Knowledge of Registered Nurse Students (Shelagh M. Roell - MIL) |
| 834010 A | Visual Aids for Illustrating Molecular Mechanisms in Biology (Peter Wejksnora - MIL) |

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| 834011 A | Teaching Perspective to Students of Architecture and Urban Planning: A Videocassette Presentation (Eric Palson and John B. Gray - MIL) |
| 834012 A | Developing and Implementing a Computer Assisted Instructional Module for Diagnostic-Prescriptive Teaching (Berttram Chiang - OSH) |
| 834013 A | Library Instruction for the Literature of Legislation in Both United States and Wisconsin Documents and in Other Sources (Meredith Gillette - OSH) |
| 834014 A | Development of Off-Campus Laboratory Experiments for Advanced Physics Students (Wayne W. Sukow - RVF) |
| 834015 A | The Development of a Videocassette Library of German Speakers for Students of German at UW-River Falls (Peter C. Johansson - RVF) |
| 834016 B | An Interdepartmental Program for Enhancing the Acquisition of Knowledge About Exceptional Educational Needs in Teacher Education (Dorothy Tiede - WTW) |
| 834017 A | The Trigonomtry Tutor (Lyle Espenscheid - MNT) |
| 834018 B | A Workshop for the Incorporation of Human Genetics Into Undergraduate Biology Curricula (Renata Laxova and Raymond Kessel - MSN; Douglas Johnson - RVF; Eugene Braun - WAK) |
| 834019 B | Video Tape Demonstrations of Systematic Curriculum-Based Assessment (Maureen D. Baumgartner and Janet M. Reinhardtsen - EAU; Nancy Kaufman - STP) |
| 834020 B | Enhancement of Teacher Training in Science Education (Bassam Z. Shakhashiri - MSN) |
| 834021 B | Extended Degree Faculty in Concert: Refining the Use of Alternative Educational Delivery Systems (Richard Hanson - SUP; John C. Adams - PLT; Roger C. Swanson - RVF; Bonni L. Yordi - GBY) |
| 834022 C | Coordinating Undergraduate Teaching Improvement Around a Thematic Focus (Faculty Development Council - GBY) |
|  | **1984-85** |
| 845001 A | Hypothesis Testing in Biology: A Model Utilizing Plant Development (Marshall D. Sundberg and Kenneth G. Foote - EAU) |

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| 845002 A | Nursing Care of the Acute Trauma Patient: An Interactive Video Project (Rita Kisting Sparks, Michaelene Mirr, and Irene Golembiewski - EAU) |
| 845003 A | Preparation of Video Tapes Illustrating Reflexes and Rudimentary Motor Behavior in Infants (Leonard Hill and Joy Greenlee - LAC) |
| 845004 A | Summer Institute on Writing Across the Academic Disciplines (Martin Nystrand and Joyce M. Melville - MSN) |
| 845005 A | Curriculum Development in Computer Applications In Undergraduate Speech and Language Disorders Courses (Diane M. Bless and Robin Chapman - MSN) |
| 845006 A | Development of a Color, 16mm, Sound Film on Post-Mortem Abnormalities of Animal Tissues for Students Learning About Inspection, Evaluation, and Processing Meat as a Food (Robert G. Kauffman - MSN) |
| 845007 A | Dynamic Visual Aids for Physiological Functions (D. M. Van Wynsberghe - MIL) |
| 845008 A | Electronic Textbooks for Intermediate Greek and Latin (David D. Mulroy - MIL) |
| 845009 A | The Development of a Low Cost Microcomputer System for Mathematics Instruction (Gilbert Walter and David Schultz - MIL) |
| 845010 A | Microcomputer Program to Simulate DNA Cloning in the Classroom (Peter J. Wejksnora - MIL) |
| 845011 A | A Pilgrimage to Caninde, Brazil: An Instructional Videocassette Presentation (Sidney M. Greenfield and John B. Gray - MIL) |
| 845012 A | Interactive Microcomputer Programs for Zoology Students at UW-River Falls: Survey of the Kingdoms Animalia and Protista (Mark Bergland - RVF) |
| 845013 A | Computer Graphic Enhancement of Introductory Statistics (George C. T. Kung and Paul K. Schwieger - STP) |
| 845014 A | Simulation of Matching Learner Characteristics With Teaching Methods in Special Education Classrooms (Daniel R. Paulson - STO) |

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| 845015 A | The Development of Instructional Videotapes for Dissection Procedures in Physiology and Anatomy (George H. Nelson - STO) |
| 845016 A | A Basic Course in Relational Thinking (R. M. Barlow - STO) |
| 845017 A | Developing Microcomputer Modules Which Will Increase Efficient Use of Technology in the Classroom (College of Education Curriculum Committee, M. Corinne Clark, Chairperson - WTW) |
| 845018 A | Enhancing the Honors Program at University of Wisconsin Center-Waukesha (Gary J. Udovich and Harvey S. Fox - WAK) |
| 845019 B | Bridging the Gap Between Reading Methods Classes and the Elementary School Classroom (Mary Jett Simpson and Susan W. Masland - MIL; Robert Barganz - EAU; Paul Sendry - MIL) |
| 845020 B | Interactive Computer-Video Drills in French (Sandra Soares - RVF; Martha Wallen - STO) |
| 845021 C | Pilot Center for Teaching Enhancement (Janet A. Anderson, et al - WTW) |
| 845022 S | Native American Philosophy and Relationships to Plant Life (John Gray and Keewaydinoquay - MIL) |
| | 1985-86 |
| 856001 A | Development of Videotaped Curricular Materials of Yucatan, Mexico, to Enrich the Cross-Cultural Learning Experiences for Social Work Majors (David H. Galaty and Rolfe E. White - GBY) |
| 856002 A | Microcomputer Use in the Field of Planning: Developing Spatial Analysis Instructional Capabilities (William R. Niedzwiedz - GBY) |
| 856003 A | Computer Animation in the Chemistry Classroom (Ronald D. McKelvey - LAC) |
| 856004 A | Small-Group Learning in a Botany Course for Non-Science Majors (Kenneth Keegstra and Judith Croxdale - MSN) |
| 856005 A | Animated Film Illustrating DNA Replication (Peter J. Wejksnora - MIL) |

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| 856006 A | Development and Testing of Microcomputer Software for Second-Year Spanish Courses (Oliver T. Myers- MIL) |
| 856007 A | Exploration of Uses for Videotape in Teaching Production Techniques for Opera (Corliss E. Phillabaum and Paul T. Sendry - MIL) |
| 856008 A | Instructional Software for Geotechnical Engineering (Gilbert L. Roderick - MIL) |
| 856009 A | Revision of "I'm a Lot Like You" Mainstreaming Program (Gloria Robinson-Simpson and Joseph Wade - MIL) |
| 856010 A | Uses of Mnemonic Devices as a Means of Recording History and Transmitting Culture in West African Music, Dance, and Art: A Videocassette Presentation (Ferne Yangyeitie Caulker-Bronson and John B. Gray - MIL) |
| 856011 A | The Micro Organic Chemistry Laboratory- A Demonstration Project (Charles E. Sundin - PLT) |
| 856012 A | Development of Videotapes Describing Biological Phenomenon and Animal Handling Practices For Improving Student Proficiency in Laboratories of Animal Science Courses (Philip B. Goerge - RVF) |
| 856013 A | Laboratory Exercises for Basic Chemical Concepts (Oliver A. Andrews - STP) |
| 856014 A | Production of Short 16mm Films for Use in Teaching Biology (Stephen J. Taft - STP) |
| 856015 A | Computer-Aided Instruction: Word Processing in Expository Writing (Roger Forseth, Deane Minaham, and Norman Christensen - SUP) |
| 856016 A | Teaching Instrumental Techniques to Students in Communicative Disorders (Mary Blake Huer, WTW) |
| 856017 B | Computer Software for Hydrology/Water Resources (Max L. Anderson - PLT; N. Earl Spangenberg - STP) |
| 856018 B | Participation of WCWC Science Educators in the Development of an Exhibit-Based Science Curriculum (Wayne W. Sukow, Executive Director, West Central Wisconsin Consortium (WCWC) - RVF) |

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| 856019 B | Faculty Library Instruction Workshop Proposal (West Central Wisconsin Library Cooperative Council (Steve Marquardt, Chair - EAU) |
| 856020 B | Introduction to Women's Studies: An Urban Industrial Perspective (Margo Conk, Cecilia Ridgeway and Rachel Skalitzky - MIL; Teresa Peck and Laura Gellott - PKS) |
| 856021 C | Critical Thinking and Values Analysis Across the Disciplines (Faculty Development and Curriculum Improvement Committee--Leonard Gibbs - EAU) |

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| 867001 A | Computerization of Instrumental Analysis (Robert J. Eierman - EAU) |
| 867002 A | Computer Evaluation of University Physics Laboratory (M. James Simonsen - EAU) |
| 867003 A | Theatre Set, Lighting and Costume Models: Developing Facilities and Techniques to Enhance Analysis of Relationships Between Design Components (Jeffery P. Entwistle and William R. Niedzwiedz - GBY) |
| 867004 A | Software to Support Teaching of Numerical Analysis (Henry C. Thibault and Harold H. Hartman - LAC) |
| 867005 A | Computer Animations in Cartography (Barbara Pfeil Buttenfield - MSN) |
| 867006 A | Rapid Flowering Brassica as a Model for Teaching Principles of Plant Biology (Paul H. Williams and Wayne M. Becker - MSN) |
| 867007 A | Teaching Weather Analysis and Forecasting Using the Man-Computer Data Access System (McIDAS) (Patricia M. Pauley - MSN) |
| 867008 A | Development of a Dairy Herd Simulator for Courses in Genetic Improvement of Dairy Cattle (George E. Shook and Margaret R. Dentine - MSN) |
| 867009 A | Slavic Civilization on Videotape (Charles A. Ward - MIL) |
| 867010 A | Spiritist Healing in Brazil: Two Instructional Videocassette Presentations (Sidney M. Greenfield and John B. Gray - MIL) |

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| 867012 A | Interactive Statistics Laboratory: A Computerized Laboratory for Introductory Statistics and Research Courses (Donald A. Walter - PKS) |
| 867013 A | Interactive Data Acquisition and Analysis by Microcomputers for the Undergraduate Thermo-Fluid Laboratory at UW-Platteville (Lang Wah Lee and Yuan Ling Wang - PLT) |
| 867014 A | Groundwater Videotape (Max Anderson - PLT) |
| 867015 A | Interactive Microcomputer Programs for Botany Students at UW-River Falls (Carl D. Finstad - RVF) |
| 867016 A | Establishment of a Mathematical Sciences Case Study Clinic (Don Leake and Eric Level) - RVF |
| 867017 A | Clinical Phonetics: An Individualized Instruction Approach (Judith E. Pratt - STP) |
| 867018 A | The Production of Visual Media Resources on Women's Art for Integration into Art History and Interdisciplinary Women's Studies Courses (Janet A. Anderson - WTW) |
| 867019 B | Development of Instructional Software for Computer Aided Design of Apparel (Francesann Heisey - MSN; Annette Fraser - STO; and Virginia Baeten - STP) |
| 867020 B | Computer Mapping for Geographic Analysis and Problem Solving (Brady Foust and Sean Hartnett - EAU; Howard Botts and John Patterson - WTW) |
| 867021 B | Discrete Mathematics in the Undergraduate Curriculum (Ronald Gutschow - WAK; Andrew Matchett - LAC; and Harald Ness - FDL) |
| 867022 C | Teaching Improvement and Faculty Development Through Evaluation (The UW-Stevens Point Center for Professional and Personal Development--Sandra Holmes, Coordinator - STP) |

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# GRANTS AWARDED

## 1971 - 72

712001 A

## TITLE: PARKSIDE KELLER PLAN PROJECT

Six faculty members in five natural and social science programs planned to redesign selected courses and develop needed materials for teaching those courses in a Keller Plan format. The main features of the Keller Plan are detailed specification of learning objectives and learning activities for each unit of material; student self-pacing; demonstrated mastery level performance before proceeding to the next unit; and the use of undergraduate student proctors, under the instructor's supervision, to grade unit tests, provide immediate feedback to students individually, provide tutoring as needed, and thus to personalize the instructional process. In previous comparative studies, the Keller Plan has been found to produce greater academic mastery and greater student satisfaction than traditional instruction.

Course materials were to include unit study guides and several alternative forms of unit quizzes, plus revised course outlines. After developing, trying out, and debugging the new course format and materials, each participant would have conducted an empirical evaluation of the Keller Plan format as compared with traditional instruction in terms of student learning and student satisfaction.

LATEST REPORT: Implementation of this project by faculty other than the Project Director was prevented by the UW-Parkside administration forbidding academic credit for student proctors. Such credit is a feature of most Keller Plan courses and is widely accepted at schools throughout the country.

Having already developed materials for two courses as part of this project, the Project Director involved some of the better students from the classes as proctors while they were taking the course. The Project Director has subsequently developed materials for other courses in the Keller format, which worked out relatively well for classes as large as sixty. For such a project to be successful, student help and secretarial support are essential. INACTIVE.

William R. Morrow
Psychology
UW-Parkside

UPDATE 6/82 AMOUNT $15,000

DESCRIPTORS
*Psychology; *Social Sciences
Mastery Learning; Peer Teaching; Autotutorial

712002 A

TITLE: DEVELOPMENT OF VIDEO TUTORIAL UNITS: CHANGING NUTRITIONAL NEEDS

An overall knowledge of changing nutritional needs is essential, not only for students of nutrition, but for professionals in the "helping professions," and for families. With such a variety of publics to be taught, it was essential to select an effective and efficient method of storage, dissemination, and retrieval of the information. In addition, it was considered highly desirable to provide learning experiences about nutritional needs as part of the entire life situation of the individual, paced to suit individual learners. In 1971, material on this topic in the form of videocassettes was nonexistent.

The purpose of the project was to assemble, organize, and arrange in meaningful sequential steps this nutritional information and record it on videotape. Six videotape units were produced, each not exceeding thirty minutes. Content was designed to permit individual use of any unit or units in any sequence, as determined by the learner or the teacher, in or out of the classroom. Units include: "Infancy--The First Year," "From Toddler to Teen," "Adolescence," "Pregnancy and Lactation," " Early Adulthood-Middle Age," and "The Later Years."

LATEST REPORT: The series has been used extensively as enrichment in several courses including the beginning nutrition, advanced human nutrition, and community nutrition courses. Various components of this series have been used for outreach programs, both locally and statewide. The series has in the past been marketed both nationally and statewide. Sales and rentals are now being handled exclusively through Educational Communications, UW-Green Bay.

The videotape series is available at cost to other UW System campuses and at full rates to State agencies. The first segment of this series was shown at an invitational session on audiovisuals at the Annual Convention of the Society for Nutrition Education in Minneapolis in July, 1978. A preview program featuring segments from all six lessons is available without charge to potential customers.

This series has enjoyed an unusual longevity. It is still being marketed nationally and is especially in demand for cable TV. As necessary, the individual units have been updated by adding a "spot" of additional information at the end. The entire set is held in the USDA Library, Food and Nutrition Information Center, for nationwide rental.

Elaine McIntosh
Nutritional Sciences Program, Human Biology
UW-Green Bay

UPDATE 8/85 AMOUNT $11,226

DESCRIPTORS
*Nutrition
Modular Instruction; Audio Visual TV Taped; Individual Pacing

712003 A

TITLE: A LABORATORY/RESEARCH METHOD FOR TEACHING BIOLOGY

The Project Directors proposed a research paper/laboratory experience for students in introductory biology utilizing the successful techniques of Brandeis University's Herman T. Epstein (Epstein, A Strategy of Education, 1970). Epstein's technique was to have the students read original research papers with a goal of understanding the thinking processes of the scientist sufficiently to be able to propose the next logical experiments.

The project consisted of two course offerings: the research paper/laboratory experience for learning introductory biology, and an experimental seminar for senior biology students, two or three of whom would teach the weekly freshman laboratory. Experiments and regular sections would be compared to evaluate the laboratory/research method.

LATEST REPORT: The two projects indicate that an undergraduate course can increase student enthusiasm when taught on the basis of research papers and a research laboratory. The preliminary results show that students can design interesting research projects and achieve results that would warrant further potentially publishable research.

When the department lost the position of one Project Director, these activities could not be continued regularly. However, Professor Stevens has continued to take numbers of undergraduates on a regular basis as research and reading students.

The following articles report the results of the experimental course: Jeveli, E. and R. J. Stevens, "Team-Teaching as a Model for Teaching the Process of Science," J. College Science Teaching, 3 (#4): 183-184, 1975. Stevens, R. J. and E. Jeveli, "A Research Paper/Laboratory Technique for Teaching the Processes of Science in Undergraduate Biology," American Biology Teacher 37 (#3); 158-61, 170, 1975. INACTIVE.

Richard J. Stevens
Human Biology
UW-Green Bay

UPDATE 8/83 AMOUNT $12,000

DESCRIPTORS
- *Biology
- Seminars; Undergraduate Research; Laboratory Sciences

712004 A

# TITLE: INNOVATIVE APPROACHES FOR ENHANCING THE QUALITY OF TEACHING UNDERGRADUATE CHEMISTRY

The project was to improve the effectiveness of undergraduate education in chemistry, especially for the non-major. The two main aspects of the program were effective use of audiovisual aids in laboratory and classroom instruction, and improvement of teaching assistant performance. The project would explore use of closed circuit color television in chemistry laboratories for displaying chemical phenomena where color changes are important.

Many students in freshman chemistry courses need repeated drill sessions to master fundamentals. A remedial audiotape program would increase self-paced learning, thus freeing teaching assistants to discuss concepts and principles.

Graduate students appointed teaching assistants often have little training for the role. To train teaching assistants, a TA-TA visitation program, increased use of student surveys, videotaped discussion sections, and redistribution of freshman chemistry study room responsibilities were explored.

LATEST REPORT: Teaching assistants found peer visitation useful in helping them progress, though they appreciated not being asked to rate each other's performance. The student survey, taken twice during the semester, was a series of fifteen criteria to measure qualities believed important in leading a discussion section. Careful documentation was kept and the results were reported to each teaching assistant, who considered the knowledge worthwhile. The one person who took advantage of the videotaping service felt it to be helpful. Added student help in the freshman study room freed teaching assistants from clerical chores so they could work with students on course content.

The pre-laboratory videotapes are available free of charge. The audiotape lessons for general chemistry are available from the W. B. Sanders Publishing Company, Philadelphia.

Bassam Z. Shakhashiri
Office of Assistant Director
  for Science and Engineering Education
National Science Foundation
Washington, DC 20037

UPDATE 8/78 AMOUNT $16,433

DESCRIPTORS
*Chemistry
Teaching Assistant Training; Audio Visual Multimedia; Audio Visual TV Taped

712005 A

TITLE: URBAN CORE REHABILITATION PROJECT WORKSHOP

Undergraduate students in construction administration, building technology, and real estate have little direct experience in urban core neighborhood problems. Rehabilitation of a single family home or duplex in an urban core would expose students to conditions and cultural patterns which many learn only as theory, while providing experience and confidence which comes from completing a project involving administrative details and processing.

LATEST REPORT: The course covered two semesters, a two-credit seminar in Spring 1972 and a three-credit workshop during Summer 1972. During the spring the nonprofit Student Badger Redevelopment Corporation searched the Madison area for a house to rehabilitate, arranged financing for its purchase, prepared economic and architectural studies, and was ready for summer work. Two houses were purchased and rehabilitated during Summer and Fall 1972, then, as required, sold to low income families.

The two houses received excellent comments from press, neighbors, and university faculty. The random interaction of personalities and events made the success of the project a delightful surprise. Student patience and perseverance kept this difficult project from floundering.

In January of 1973, President Nixon ended 235 rehabilitation loans as federal aid to low income families. Without federal assistance there was no way to continue the program. However, the Badger Redevelopment Corporation has been retained as an inactive corporation and if the financial climate changes, the program could start again.

This project required a lot of faculty time to deal with laws, regulations, building permits, the Internal Revenue Service, and the Department of Industry, Labor and Human Relations. With adequate campus and federal funding, this is an excellent learning experience for students and a good public relations tool.

Copies of the out of print report "Housing Rehabilitation Workshop" are on file at all university libraries. INACTIVE.

| | |
|---|---|
| Dick Stith<br>Agricultural Engineering<br>UW-Madison | James A. Graaskamp<br>Business<br>UW-Madison |
| UPDATE 8/78 | AMOUNT $6,100 |

DESCRIPTORS
*Architecture; *Business; *Urban Studies
Field Studies; Practica; Seminars; Workshop Students

712006 A

# TITLE: CONSTRUCTION OF A DRAINAGE-SEDIMENTATION-WAVE BASIN MODEL

A drainage sedimentation wave basin model permits the simulation of natural processes of the physical environment and permits the beginning student to observe how these processes interact. This simulation allows the undergraduate to translate theory to practical experience.

The Project Directors made UW-Milwaukee's initial contact with the U.S. Corps of Engineers Coastal Engineering Research Center (CERC) and the Waterways Experiment Station (WES) to obtain blueprints of CERC's drainage sedimentation wave basin model and WES's wave generation equipment to modify the plans for construction of a similar modeling system at UW-Milwaukee. The model was constructed in 1972.

LATEST REPORT: Undergraduate students constructed, ran, and evaluated a variety of physical processes, working cooperatively in interdisciplinary groups to solve complex problems common to Wisconsin and the urban environment.

The project surpassed the Project Director's expectations in generating student enthusiasm, making possible a move from "dry" laboratory exercises (maps, etc.) to practical hands-on experiences in a wet laboratory. The modeling tank is used in engineering, environmental geology, geomorphology, groundwater geology, and oceanography. Undergraduate students model and/or simulate: 1) the Milwaukee harbor-Lake Michigan near-shore environment including bluff and beach erosion, and 2) various surface and groundwater problems from the Milwaukee River drainage basin. Upper division students construct and use models to study near-shore processes and groundwater hydrology. In addition, the model is used for demonstration in introductory physical geology and oceanography.

The tank measures 75' x 25' x 2' and is a stand-alone facility. Professor Lasca would be glad to share his experience with anyone interested in developing a similar tank.

Norman P. Lasca
Geological Sciences
UW-Milwaukee

UPDATE 8/78 AMOUNT $11,785

DESCRIPTORS
*Biology; *Engineering; *Geology; *Environmental Studies; *Interdisciplinary; *Natural Sciences; *Ocean Sciences Laboratory Sciences; Simulation Game

712007 A

# TITLE: CREATION AND EQUIPPING OF AN ENVIRONMENTAL-SANITARY ENGINEERING LABORATORY

In September 1971 an Environmental Protection Agency grant of $40,418 for "Expansion of Existing Undergraduate Program in the Design, Operation, and Maintenance of Water Pollution Control Facilities" underwrote an urban environmental engineering program in which 20 undergraduates enrolled. The program had the space for laboratories and it had faculty, but it did not have a laboratory equipped for water and wastewater teaching.

The project was to support about 50% of the laboratory teaching needs in water supply and quality, sewage and industrial waste characteristics, and river and lake receiving water qualities. Physical, chemical, bacteriological, biological, and radiological teaching and testing were to become part of the laboratory. Standard methods would be taught.

LATEST REPORT: The project was successful in that a completely operative environmental sanitary engineering laboratory, together with equipment for research, has been constructed and used. Approximately 60 students over five years have gone through the basic course. As a result, related courses need not duplicate the material. In addition, thirteen courses have been developed to make use of the environmental sanitary engineering laboratory.

The laboratory has been integrated into a program which includes engineering hydrology, design courses on water supply and sewerage and treatment plants, water resources engineering, environmental health engineering, air pollution and control, and solid waste management. The laboratory is essential to these fields.

Detailed lecture notes on the physical, chemical, biological, and bacteriological subjects tested in the laboratory are available. Also laboratory procedures over and above those included in "standard methods" are available upon request.

Vinton W. Bacon
Engineering and Applied Science
UW-Milwaukee

UPDATE 8/78 AMOUNT $17,566

DESCRIPTORS
*Environmental Studies; *Ocean Sciences; *Engineering;
*Interdisciplinary
Laboratory Sciences

712008 A

TITLE: THE FACES OF AFRICA: INSTRUCTIONAL MODULES FOR STUDY OF THE AFRICAN CONTINENT

The Project Director identified certain difficulties in the teaching of the three African courses in regional analysis and geography at UW-Green Bay: "The Geography of Africa," "The Analysis of the Great Lakes Region of Africa," and "Planning and Development in the Great Lakes Region of Africa." These difficulties could be traced to three factors: the level of experience of the students varied from those pursuing a major to those doing a first semester course; the spatial, areal, or geographical perspective was a difficult one for students to perceive; and the African environment (both physical and cultural) was a totally strange one to most of the students. These three difficulties could be overcome in part by the use of substantial audio and visual aids. This project was to design and execute a series of ten to twenty minute modules, depending heavily on 35mm slides with synchronous sound, dealing with some of the salient course topics.

LATEST REPORT: The primary benefit has been the production and organization of visual aids and their incorporation into the courses on Africa. In addition, other audiovisual aids have been identified and used.

As the project developed, the Project Director saw limitations to the self contained modules and concentrated instead on a topical listing of the materials so that they might be incorporated into an ad hoc rather than a permanent format. The increased use of this large repertory of audiovisual materials has made a substantial improvement in presentation of the course material and in comprehension and assimilation by the students.

Work done on the module on East African Asians provided a valuable resource in preparing a portion of Ugandan Asians in Britain of which the Project Director was coauthor. African settlement patterns and their relationship to the physical environment, subject of another module, was a topic in a grant proposal funded by the Ford Foundation. Finally, a new course, "Impressions of Southern Africa," was developed as a result of this project. INACTIVE.

William G. Kuepper
Regional Analysis
UW-Green Bay

UPDATE 8/83 AMOUNT $3,590

DESCRIPTORS
*Geography
Course Development; Modular Instruction; Visual Slides; Audio Visual Multimedia

712009 A

TITLE: ESTABLISHMENT OF A SOCIETAL MODEL LABORATORY

The societal model laboratory was to provide an environment in which undergraduates could acquire the skills to model social processes with the aid of computers.

LATEST REPORT: The laboratory facilities, first located in Bascom Hall, included terminals for interactive communication with the Madison Academic Computing Center Univac 1108 computer; software programs for facilitating the teaching, development, and execution of such models; and a library of materials relating to societal modeling.

In Spring 1972 a class of undergraduates began to use the laboratory and to learn basic techniques for modeling social systems. Members of the class learned what it means to create symbolic models of social processes; that some kinds of social processes are better represented by one technique, other kinds by other techniques; and that although the skills necessary to do modeling are not particularly easy, they can be acquired. The existence of the laboratory was important because the library of materials was physically close to the work space; the ability to have lecture/discussion sessions for an hour followed immediately by hands-on experience served an integrative instructional function; and the spirit of "our lab" appeared to play some part in maintaining the enthusiasm of the class. As the program evolved, students took part in an ongoing international system modeling experiment through a Dain line hookup with the University of California-Santa Barbara; some students continued in the project and thus provided continuity from semester to semester.

Unfortunately, the societal modeling project became too much of a burden as overload teaching and the Political Science Department did not have the resources to continue it in a more formal way. This type of operation needs a permanent staff.

Article: M. R. Leavitt, "Educational and Research Uses of a Societal Modeling Laboratory, "Proceedings of the 1972 Summer Computer Simulation Conference (La Jolla, California: Simulations Council, Inc., 1972). INACTIVE.

Chairperson
Political Science
UW-Madison

UPDATE 8/78 AMOUNT $11,850

DESCRIPTORS
*Political Science; *Social Sciences
Computer Simulation; Laboratory Social Sciences; Models

712010 A

TITLE: PROPOSAL TO ENHANCE THE INSTRUCTIONAL EFFECTIVENESS OF TEACHING ASSISTANTS

The purpose of this project was to enhance the instructional effectiveness of teaching assistants in the Department of Economics. Through a series of weekly meetings, teaching assistants were shown how they could improve their techniques for discussion leading, were made more aware of their teaching abilities through the use of videotaping, were instructed on how to prepare more effective examination questions, and were exposed to the potential for research on the impact of instructional programs in economics. All department teaching assistants were invited to participate.

LATEST REPORT: An evaluation of the effectiveness of the program and of the individual sessions was done through the use of a questionnaire and personal interviews with the participants. A follow-up was made the next year to determine the longer-run impact of the program.

The use of videotaping by faculty and teaching assistants is now a regular part of efforts to improve undergraduate instruction in the department. The response has been extremely favorable. Partly in response to this project, the department established a one-semester seminar on the teaching of college economics. This seminar, offered on the average of once each year, provides a means for Ph.D. candidates who expect to teach to learn about appropriate instructional approaches. The experience with the seminar was used in the design of the National Teacher Training Program in Economics, culmination of a six-year program of the Joint Council on Economic Education. A description of the project and the resulting manual and videotapes is contained in the Journal of Economic Education, Spring 1980, and a presentation about it was made at the Sixth International Conference on Improving University Education in Switzerland, July 1980.

W. Lee Hansen
Economics
UW-Madison

UPDATE 8/83 AMOUNT $2,600

DESCRIPTORS
*Economics
Teaching Assistant Training; Audio Visual TV Taped; Faculty Development

712011 A

TITLE: COORDINATED STUDY OF INSTRUCTIONAL AIDS FOR INNOVATIVE TEACHING

Three subcommittees of the Committee on Undergraduate Education were to study individualization of instruction, use of media in instruction, and use of computers in instruction in order better to award instructional development funds in these areas.

Major objectives of the project were to establish a pilot faculty assistance program for individualization of learning; to recommend improvements in Bureau of Audio Visual Instruction and other media services; and to assess computer aided instruction for the UW-Madison campus.

LATEST REPORT: The three subcommittees made detailed reports of their undertakings. What follows is a brief sample. Ten individualization of instruction faculty members met with Professor Robert Clasen of the Educational Psychology Department and worked with him on an individual basis to adapt his techniques to their own courses. Eighteen additional faculty members expressed the desire to participate in learning how to apply the techniques.

To overcome faculty frustration over use of media in instruction, one recommendation was that "the administration of the Madison campus work toward development of multi-unit-use facilities for faculty and student projects, not only out of existing equipment and facilities, but also by incorporating such facilities in any instructional buildings in the future."

There are three general computer uses in instruction: to calculate, to manage instruction, and to aid instruction. The subcommittee recommended that the system adopted by the College of Engineering be extended; that AIMS (automated instructional management system) be obtained; and that development in this area should proceed cautiously.

Secretary of the Faculty
134 Bascom Hall
UW-Madison

UPDATE 8/79 AMOUNT $14,500

DESCRIPTORS

*Faculty Development
Computer Problem Solving; Computer Managed Instruction;
Computer Autotutorial; Individual Pacing

712012 A

TITLE: FRESHMAN SEMINAR PROGRAM, COLLEGE OF LETTERS AND SCIENCE

The freshman seminar program was planned to provide a meaningful and stimulating alternative to the mass lecture format, to promote intimate intellectual exchange between students and experienced faculty, and to assist first year students in developing the full range of their critical abilities.

Three seminars had been inaugurated in Spring 1972. This project provided improvement of that initial effort by introducing a series of teaching and learning aids, securing outside resource personnel, extending the program in outreach efforts, allowing for the continuance of the program in the six-week summer session, and providing for additional faculty research and preparation to expand and sustain the program beyond the trial period.

Students and faculty evaluated the experimental courses and provided important suggestions for future planning.

LATEST REPORT: Student interest was high. The seminars were quickly filled and waiting lists developed. Five freshman seminars were offered in Summer 1972. Four of the professors who offered seminars agreed to offer their seminars again in Fall 1972, and two additional seminars were added.

The program was a crucial step forward in overcoming the problem which freshmen face of mass education and its attendant difficulties of mediocrity, anonymity, and indifference. The program became a regularly budgeted instructional unit of the college. Several of the courses that were initiated and tested in the program have become regular offerings in a department. (See also 723001.)

F. Xavier Baron
English
UW-Milwaukee

UPDATE 8/79 AMOUNT $10,900

DESCRIPTORS
- *Interdisciplinary
- Seminars

712013 A

TITLE: AN INTERDISCIPLINARY RESEARCH PROJECT FOR UNDERGRADUATES

This proposal grew from an interdisciplinary course, "Urbanism and Social Science," which was taught by five social scientists in a two semester sequence in 1971-72. The course was designed to prepare students to be high school social science teachers. At the end of Semester I, students developed research proposals which they planned to carry out in the second semester in a series of field work activities. Some planned to develop a film and filmstrips using Milwaukee as a laboratory, stressing the problems of race, poverty, and transportation. Others set out to collect and create a complete set of slides dealing with the social structure and problems of the Milwaukee metropolitan area. In addition, a field survey that involved computer analysis was initiated in the belief that since these are the methods of university level social science research, they should be experienced by any students intending to teach the new social studies. The five faculty members involved in team teaching the course planned together with the students to evaluate the overall effectiveness of the semester.

LATEST REPORT: The major objectives of the proposal were all achieved. A film was made on prison reform; the camera purchased for the project is being used in sociology classes to explore the use of film in social research. A major successful project was the comparative survey of the attitudes of the members of two trade union locals in Milwaukee. This study gave students an opportunity to use their work experience as the basis for academic work, as well as the opportunity to become familiar with computer analysis, a subject usually left to graduate study. Two students created a set of data and maps of the Harambee model cities area in Milwaukee, showing basic demographic data of the area. A student-developed handbook, "The Legal Self-Defense Handbook," which dealt with the legal rights of citizens before, during, and after arrest, was published at student expense. INACTIVE.

Karl Flaming
Sociology
UW-Milwaukee

Edward Hayes
Political Science
UW-Milwaukee

UPDATE 8/78

AMOUNT $8,213

DESCRIPTORS
*Geography; *Political Science; *Sociology; *Urban Studies; *Teacher Education
Visual Film Strips; Undergraduate Research; Team Teaching

712014 A

TITLE: TEAM TEACHING OF ACTING COURSES--DEPARTMENT OF THEATRE ARTS

Team teaching, which provides exposure to a broad spectrum of opinion and stimulates an interchange of artistic concepts between instructors and students, was felt to be a highly appropriate technique for acting classes. However, heavy teaching loads and student contact hours in the Theatre Department made it virtually impossible to develop and test a team taught class. This proposal requested one-fourth released time for two faculty to develop a team taught course in "Acting II." A major purpose of the course was to enable students to see that there are no set or "correct" answers for anything in the creative process.

LATEST REPORT: Instructors have continued to use the team teaching approach within the professional acting classes during the past five years. Throughout the period of team teaching, the professional training program has constantly been rated among the top three of its kind in this country. This method of instruction has been a consistently successful tool and one of the prime factors contributing to the rapid and continual development of the program.

Both students and faculty are adamant in their support of the continuation of this approach, as it appears to be one of the strongest components in analyzing and solving problems that occur within their class work. Especially within an area such as theatre arts, students are convinced that the opportunities provided through this practice for more expanded observation and evaluation of their work and progress are far greater when there is more than one source to draw upon.

This summer, the Theatre Department is sponsoring a college-level acting workshop for students outside the professional program and plans to use an equivalent team teaching system for the course work involved. Theatre anticipates equally effective results as well as a positive response from the students selected to participate.

At the present, the department is confident of the obvious success of team teaching, more than satisfied with the results it has produced, and therefore plans to continue in this direction for the future.

Chairperson
Theatre
UW-Milwaukee

UPDATE 8/83 AMOUNT $1,800

DESCRIPTORS
*Theatre
Team Teaching; Workshop Students

712015 A

TITLE: A PROGRAM OF THREE INTERDISCIPLINARY COURSES--STYLES OF EXPRESSION: THE ARTS AND TECHNOLOGY

The contemporary artist must understand the terminology of science and have a fundamental grasp of the tools and materials of the scientist. In addition, the artist must have a historical understanding of the interrelationship between science and art, understand where and why the divergence between the two systems of perception occurs and how the tools of the artist and scientist affect their different views of reality.

The Project Directors wished to design a program of combination laboratory/studio/lecture courses which would be taught by a team of faculty from both sciences and humanities. The goal of the program was to give undergraduates the opportunity to combine scientific and artistic styles of creativity; and to help students who are scientifically or artistically inclined to break away from what appear to be mutually exclusive traditional artistic and scientific habits of perception.

LATEST REPORT: The program was offered as a package of three courses which were formally accepted as regular courses by the Humanities Division and as experimental courses by the Science Division. In communication-action, many aspects of the courses generally have been absorbed into a multiple-course environmental design program. In freshman liberal education seminars, many aspects of the courses were incorporated into the course entitled "Technology and Human Values: Science and Man's Perception of Reality." In addition, a number of workshops and demonstrations were developed and presented to community, industrial, and educational groups by Professor Abeles. Though the specific program of courses is now inactive, the design and the environment courses grew out of the program, as indicated above.

This project was exploratory and catalytic in nature--in its art/technology content, its problem solving focus, and its early example as a model of multi-disciplinarity. Since then several other such cross-college programs have evolved.

Jack E. Frisch
Communication-Action
UW-Green Bay

UPDATE 8/83 AMOUNT $6,500

DESCRIPTORS
*Interdisciplinary; *Arts; *Environmental Studies; *Physical Sciences Laboratory Sciences; Practica; Seminars; Workshop Students

712016 A

TITLE: STRENGTHENING CAMPUSWIDE AUDIOVISUAL SKILLS AT MARSHFIELD

In 1971, faculty at UWC-Marshfield, including the librarian and the administrative dean, saw the need for hiring an audiovisual specialist to create an inventory of equipment and materials, assess them from the point of view of compatibility, evaluate the Center's capability in audiovisual instruction, plan future acquisitions to avoid wasteful duplication, and integrate traditional library source material with available audiovisual materials. In addition, it was felt that faculty would benefit from discussion of the potentials of audiovisual instruction, assistance in the preparation and securing of appropriate software, instruction in the use of audiovisual materials for their teaching, and instruction on the use of audiovisual equipment.

LATEST REPORT: This project funded the audiovisual specialist for Spring 1972. The project succeeded in meeting a real need. The audiovisual specialist who was hired stimulated interest in faculty use of audiovisual hardware and software, and began integration of the library and audiovisual materials. Though the Center was unable to fund the audiovisual specialist the following year and the impetus that had begun lost some momentum, subsequently an audiovisual specialist has been employed. The project proved to be a great help in convincing both the Center and UW Centers administration that the position had merit.

N. E. Koopman
Dean
UWC-Marshfield/Wood County

UPDATE 8/78 AMOUNT $7,500

DESCRIPTORS
- *Faculty Development
- Faculty Development; Audio Visual Multimedia

712017 A

# TITLE: CURRICULUM DEVELOPMENT OF A FRESHMAN COURSE ON THE ELEMENTS OF MODELING

Students entering college take ever narrowing sequences of specialized study which tend to obscure the fact that all areas--mathematics, natural, and social sciences--are using modeling to examine the "real world." the teaching of modeling is finding increased favor among experts in science and mathematics education. Secondary school science and mathematics teachers are expected to be able to identify essential elements of a model, distinguish among competing models, identify the most appropriate model for a particular problem, and modify a new model to accommodate new phenomena and observations. It was this art that we felt should be presented to freshman students.

LATEST REPORT: The Project Directors, from the sciences and social sciences, developed a three-hour laboratory science course about the elements of modeling to be taught at UWC-Waukesha to students from all disciplines and varied backgrounds. The course would allow students to model in areas of their own interests.

The course was team taught in 1973 by John Knight (philosophy), Walter Sadler (mathematics) and Victor Wrigley (physics). In addition, psychology and economics faculty gave guest lectures. Eighteen students enrolled. Unfortunately, because teaching schedules became heavier, the Center could not offer it again. The diversity of student backgrounds made it difficult to develop models appropriate to each different background. Rather than attempt the time consuming task of developing a stockpile of examples which would be meaningful to such a wide range of students, the mathematics faculty chose to integrate instruction on modeling techniques into the standard courses, in which more homogeneous ability groupings are found.

Professor Sadler's book, Calculus, A Modeling Approach (Prindle, Weber, and Schmidt), incorporates ideas developed during the preparation of the course. INACTIVE.

Walter L. Sadler
Mathematics
UWC-Waukesha

UPDATE 8/78 AMOUNT $9,465

DESCRIPTORS
*Interdisciplinary; *Mathematics; *Natural Sciences; *Social Sciences; *Philosophy
Models; Team Teaching; Laboratory Sciences; Laboratory Social Sciences

# GRANTS AWARDED

## 1972 - 73

723001 A

TITLE: FRESHMAN SEMINAR PROGRAM, COLLEGE OF LETTERS AND SCIENCE

A 1972 UTIG award launched a series of small group interdisciplinary seminars for freshman students taught by experienced faculty as an alternative to the large lecture. The program was highly successful. This project was to take the seminars off-campus to encourage non-traditional students to continue their education.

A goal of the freshman seminar program was to be a tool to serve the urban community. Thus its offerings would be expanded to include late afternoon and evening instruction to accommodate students who were employed or had family responsibilities during the day. In addition, courses directly related to urban life and the experience of community students would be developed, staffed by faculty with sensitivity to the students' special needs and abilities.

LATEST REPORT: In addition to seven interdisciplinary seminars, three classes were set up in various locations and produced some inspiring experiences. The off-campus program attracted approximately 125 non-traditional students per semester to higher education. Student evaluations indicate that most of these older students would not have continued their education had credit courses not been available at convenient off-campus locations. Eighty percent of the adult students surveyed wanted to take additional courses. These retired adults, union members, and housewives stressed that they had not felt patronized. They were proud to be students and excited about learning. The students felt a special sense of their own dignity, importance and worth.

The program was so successful that in 1974 the college separated the on-campus and off-campus programs and created a new instructional unit, the Community Seminar Program. This experience with non-traditional students in the community should be most useful to those concerned with the "new market" students. The Project Director invites inquiries about the program. (See also 712012.)

F. Xavier Baron
English
UW-Milwaukee

UPDATE 8/78 AMOUNT $20,000

DESCRIPTORS
*Interdisciplinary; *Adult Students
Seminars

723002 B

TITLE: THE DEVELOPMENT OF PROBATION/REHABILITATION AIDES: A PROGRAM FOR INMATES AND PAROLEES

Prison reform and inmate rehabilitation are topics of interest. Efforts were made to develop programs to assist those released to become effective members of society.

The objective of Rehabilitation Aide Program was to introduce the correctional client to personal and employment development, including confidence to complete university courses and a knowledge base in the social and behavioral sciences which could be transferred to an academic program or a job as a paraprofessional in the helping professions.

LATEST REPORT: The project provided selected inmates and parolees with knowledge and skills at the paraprofessional level in the field of probation and parole. Participants considered personal role identity, life goals, and their social environment. The one-year program emphasized English and social welfare. The student who completed the program was awarded a certificate, and accumulated 22 college credits toward a baccalaureate degree.

The first year, 27 participants were selected, with five added second semester. Most of the students in the rehabilitation aides class felt the class was a means to better themselves. Some students transferred to UW-Milwaukee or Milwaukee Area Technical College; others were offered jobs. Several agencies commended the program for reestablishing motivation and interest in clients.

The program operated for three years; 32 individuals participated. The completion rate did not exceed 32%; the number and complexity of the personal problems were beyond normal expectations. The staff members felt that the program had intrinsic merit. If several individuals were able to complete the program and gain access to the university or to job market, then the program was successful. INACTIVE.

David Jensen
Student Services
UW-Extension

Robert Scheurell
Social Welfare
UW-Milwaukee

UPDATE 8/78

AMOUNT $10,000

DESCRIPTORS
*Social Welfare; *Basic Skills English Composition; *Adult Students
Student Services; Program Development

723003 A

TITLE: THE DEVELOPMENT OF CONTEMPORARY IDEAS MODULES IN THE LIFE SCIENCES

There is a need to relate science and the teaching of science more effectively to the non-major. Many social issues, such as pollution and overpopulation, have a scientific basis; people cannot really understand pollution without some knowledge of the concepts of ecology, or overpopulation without some understanding of the principles of population dynamics.

This project was to develop a life science program emphasizing the social implications of science and using a personalized form of instruction. Over a three year period, twenty "contemporary ideas" modules would be developed, forming a module bank from which students would choose relevant topics. Modules would carry one semester hour of credit each and cover a single topic.

LATEST REPORT: Six modules were developed and tried out in the pilot project: human reproduction, population control, human heredity and birth defects, the biological recycling of resources, water pollution, and population growth and interaction. They were so popular (600 enrollees) that the format was changed to lectures for basic presentation of information, and to small group, rather than individual, conferences. The original intention to make the modules self-paced learning experiences had to be abandoned.

During the subsequent 2-1/2 years, 15 modules were developed by the life science faculty: 10 in earth science, three to four in physics, and one in mathematics.

In the pilot project, students were asked to complete an evaluation form on each module. It is evident that the modular learning format initially met a real need; however, in the past two years changes have been made in the scheduling and content of the modules due to student comments that the work required to complete a module was excessive for one credit. Three to six modules are now scheduled per year with an average enrollment of thirty. Two of the original modules, human reproduction and population growth and control, were converted into semester-long courses. INACTIVE.

Joseph S. Balsano
Life Science
UW-Parkside

UPDATE 8/85 AMOUNT $8,856

DESCRIPTORS
*Interdisciplinary; *Biology
Modular Instruction

723004 A

TITLE: APPLIED MATHEMATICAL OPTIMIZATION TECHNIQUES

Mathematical optimization techniques provide an important tool for studying problems in environmental control such as management of solid waste, water resources, forests, air resources, and natural resources. Unfortunately, the subject of optimization commonly has been taught as a graduate course and generally has emphasized theory. Many of the concepts are not difficult, however, and can be taught to juniors or seniors. Although texts at this level are available, they usually contain problems of theory or have only brief computational problems.

The objective of this project was to develop a set of laboratory problems to be used as part of a course in optimization. These problems would acquaint students with important problem solving tools for environmental control and motivate them to gain the necessary mathematical skills to use these tools. The problems would be organized into categories for which supporting mathematical theories exist, such as linear programming, non-linear programming, integer programming, and dynamic programming. Prerequisites for the course would be two semesters of calculus and some experience with computer programming.

LATEST REPORT: The mix of theory and problem solving proved to be a stimulus. Student response was favorable. Interest remained high even after course completion. Some class problems were developed into research problems for other courses, departments, or government agencies. One student volunteered to program future problems.

Project problems form an integral part of the course "Applied Mathematical Optimization," which is now a regular part of the curriculum. Copies of the problems are available on a limited basis from the authors.

The Project Directors describe the course in an article titled "A Problem-Oriented Mathematical Optimization Course," Educational Studies in Mathematics, Vol. 8 (1977), pp. 359-368.

| | |
|---|---|
| Robert B. Wenger<br>Science and Environmental Change<br>UW-Green Bay | Charles R. Rhyner<br>UW-Green Bay |
| UPDATE 8/78 | AMOUNT $7,500 |

DESCRIPTORS

*Interdisciplinary; *Computer Science; *Mathematics;
*Environmental Studies
Computer Problem Solving; Models

723005 A

TITLE:  A MODULAR OR INDIVIDUALIZED APPROACH TO TEACHING FIRST YEAR FRENCH

Language instructors in the UW Centers as elsewhere have been faced with declining enrollments in language courses in general and a growing attrition rate in beginning language courses. Students who do poorly, and even students who do well, drop out of beginning language courses at great rates, often before the end of the first eight weeks.

Since language learning is a cumulative process, the students' inability to cope with the material continues to increase until they are hopelessly behind and must drop the course. The Project Directors proposed, therefore, to develop an approach to first year French that was partly or completely individualized, consisting of tests and tapes that would enable the student to proceed at an individual rate of speed and with ample opportunity for self-evaluation.

LATEST REPORT: About 200 audio cassette tapes, assignment sheets, and written and oral tests to accompany the elementary French textbook, French: Listening, Speaking, Reading, Writing (2nd edition), Thomas H. Brown (McGraw-Hill), were developed. The tapes contain English explanations and commentary, as well as exercises in French and a test at the end of each tape. Students worked through the textbook and tapes independently without requiring extensive explanations by a regular instructor. Students were required to master the oral as well as the written language in order to pass the tests.

Modular French 101-102 has been offered on an individualized basis on the Waukesha campus since the fall of 1973. By fall 1977, 50 students had completed either 101 or 102. Many more traditional and community students were in the process of completing the course. The completion rate of 50% is fairly high for a program where students work entirely on their own and are told from the beginning that they may take up to a calendar year to complete a semester if they so desire.

The textbook is out of print so the program described here has been phased out. Both the original program and the replacement have now been discontinued because the books are out of print. INACTIVE.

| | |
|---|---|
| Sara Toenes<br>French<br>UWC-Waukesha | Joseph Chevalier<br>French<br>UWC-Marathon County |
| UPDATE 8/85 | AMOUNT $2,739 |

DESCRIPTORS
*French
Modular Instruction; Autotutorial

723006 A

TITLE: SOFTWARE FOR INSTRUCTIONAL MEDIA CENTER

This project was planned to provide software, including video and audio tapes, slides, and films for use in an instructional media center located in Vilas Communication Hall. The center would contain 30 listening and viewing booths to be used for individual student learning. The facility would allow students to engage in the learning process at their own rate by stopping and starting the equipment when necessary and reviewing any materials they desired. Planned to be open throughout the day so that students might use it at their own convenience, the center could serve up to 2,100 students a week.

LATEST REPORT: The Project Director spent considerable time and effort in gathering a wide range of learning resources for the center. Among these materials were programs, reports, and commercials associated with the 1972 presidential election. These materials enabled students to analyze how television was employed by the candidates during that election year. Major addresses by the Presidents of the United States were placed on video and audio tapes for students studying public address. Key programs presented by the commercial and public television networks were also recorded.

Another project was the collection of materials which concerned people involved in various conflict situations and demonstrated how they used communication to resolve their problems. The project also identified 50 of the most frequently viewed films in the United Artists collection housed in the Wisconsin State Historical Society. These films were transferred to video cassettes for use by students in various film classes. Historical radio programs also were recorded on audio cassettes. All of this audiovisual material has been heavily used throughout the Communication Arts curriculum. Each year the department has added audio and videotapes to the collection.

Chairperson
Communication Arts
UW-Madison

UPDATE 8/83 AMOUNT $10,600

DESCRIPTORS
*Communication Arts
Audio Visual Multimedia; Audio Tape Recording; Audio Visual TV Taped; Centers

723007 A

TITLE: CAPITAL EQUIPMENT PURCHASE OF COMPLETE VIDEOTAPE RECORDER AND PLAYBACK UNIT FOR THEATRE ARTS

In 1972 a serious gap existed in the teaching program of the Department of Theatre. There was a lack of a method which would provide students with the opportunity for critical self-evaluation. There was no means of offering empirical evidence (and keeping a record of such evidence to educate future students) regarding suitability, effectiveness, and soundness of artistic principles related to work done within the department. Audiovisual equipment that would allow both recording and playback was essential to enhance the possibilities for self-evaluation and self-awareness. With such equipment students would be able to judge their effectiveness in a theatrical setting in relation to acting and directing, stage and costume design, and children's theatre.

LATEST REPORT: The department continues to use the audio visual equipment and has found it to be an extremely valuable asset as both an instrument to assist teachers and as a tool for increasing students' learning capacity.

In the past year, there was a merger between the Theatre and Dance Departments and the audiovisual approach has continued to prove to be a powerful aid to both of these artistically-oriented areas of study. It appears that students and faculty within both of these disciplines believe that the use of this resource has allowed students to expand their learning in ways that would otherwise not have been possible.

For the future, the department will continue to utilize this technique as it has proved to be an immeasurable aid to instructors, as well as playing a significant role in the growth and progress of individual students.

Chairperson
Theatre
UW-Milwaukee

UPDATE 8/83 AMOUNT $2,067

DESCRIPTORS
*Theatre
Audio Visual TV Taped

723008 A

TITLE: AMERICAN DOCUMENTARY THEATER

The allied arts of theater, music, and fine arts are normally called on to entertain or to make profound statements about human existence on the earth, but little has been done to use these forms in a dramatic presentation to illuminate a contemporary problem in a factual and entertaining form. Using the materials and methodology of the historian, social scientist, literary and theater artist, the Project Director planned to coordinate the work of students and teachers to carry the examination of a contemporary problem through all the levels of research, documentation, and writing for a theater performance. The topic chosen for the project was "The Native American in Wisconsin."

LATEST REPORT: A three-semester course was designed. Sixty junior and senior level students were divided into three groups of twenty each to focus on one specific course goal: research and criticism, script preparation, or production preparation. The first semester focused on research, the second on writing, and the third was to be devoted to producing the finished play script. Students in all three sections participated in team taught lectures and discussions on all three aspects of the goal.

Student carry-over from first semester to second semester was almost complete. By fall 1974 all the research had been done and the script had been written. The script was submitted for competition that year. The completion of the third phase, theater production, was hindered mainly by the departure of Professor Paul Mann, who had been slated for the play production phase. Since then the project evolved in two directions: an alternate theater program, in which experimental plays of various kinds have been produced, and a student regional theater, which produces and performs student-written plays.

The experience with this project has led most recently to development of a curriculum proposal for an interdisciplinary undergraduate/graduate program called "The Arts in Society." INACTIVE.

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|---|---|
| Jerrold Rodesch<br>Humanistic Studies<br>UW-Green Bay | Thomas Churchill<br>Literature and Language<br>UW-Green Bay |
| UPDATE 8/85 | AMOUNT $17,569 |

DESCRIPTORS

*Interdisciplinary; *Theatre; *History; *English
Course Development; Undergraduate Research; Team Teaching; Performances

723009 A

TITLE: COURSE AND INSTRUCTOR EVALUATION REPORT

The consensus of people working on the improvement of undergraduate education seems to be that faculty need substantially improved feedback on their own teaching performance and on the performance of their students, and most important, on setting specific objectives for their course.

The project was planned to establish a consulting service available to faculty, departments, and colleges to help develop CIE (course and instructor evaluation) where it did not exist, or assist in the statistical study of a CIE form to improve current models; to develop a detailed step by step guide for departments wishing to develop an entirely new CIE form or overhaul an existing version; and to investigate and determine the feasibility and acceptance of using the Protran computer program to print out verbal diagnostic interpretations of CIE numerical data for each instructor. Although generalized questions would be developed for the objectives of given courses, strong attempts would be made to avoid the usual evaluation forms keyed only to stand-up lecturing.

LATEST REPORT: Many faculty, departments, and one college did receive consulting services as did the UW Centers, specifically UWC-Waukesha. In cooperation with the campus committee on undergraduate education, the project personnel made a survey of evaluation practices and costs in all departments. The course and instructor evaluation development model provides a detailed guide and checklist to implement CIE. The project provided funds to develop a manual on how to do course and instructor evaluation. This 200 page manual, "How to Develop Course and Instructor Evaluation," is an important tool for every faculty member in the UW System as it provides the basic information faculty should know to start student evaluation of courses and instruction. The grant did much to institutionalize student evaluation of instruction and to identify objectives, items, and resource persons. A UW-Madison survey which was later repeated is in current use.

A copy of the material is available at the college library, Helen C. White Hall. INACTIVE.

Allen Cohen
Education
UW-Madison

UPDATE 8/83 AMOUNT $20,000

DESCRIPTORS

*Faculty Development
Academic Program Evaluation

723010 A

# TITLE: SELF-PACED LEARNING IN INTRODUCTORY ANTHROPOLOGY

The Introductory Anthropology course at UW-Parkside had been taught in the traditional large lecture format. The primary objective of this project was to develop course material which permitted conversion of the course to an autotutorial mode, emphasizing individualized, self-paced instruction, diversity of visual and aural stimuli, and ongoing evaluation of course materials and course effectiveness.

LATEST REPORT: The course consisted of 26 instructional units, each of which could be used independently or as part of a short course. Students proceeded through programmed texts and audiovisual material at properly equipped carrels. Materials were supplemented by films, projects, reading assignments, and laboratory work.

The advantages of the program were that students paced themselves in terms of motivation and learning ability, units provided consistency of presentation, and the media used had a higher level of sensory intensity than the traditional lecture.

Project accomplishments include the identification, evaluation, and acquisition of available audiovisual materials appropriate to anthropology, the production of materials for classroom use, and the development of a course manual which includes goal-setting, self-pacing, and self-testing.

Materials generated by this project are currently used in UW-Parkside anthropology courses, especially introductory anthropology and cultural anthropology. Students experience a package of materials describing a selected set of cultures. The audiovisual materials are also available for individual student use in the learning center.

The introductory anthropology course manual of 20 units is available from the Sociology Department office; 8 films and numerous slides are available for loan.

Richard Stoffle
Sociology
UW-Parkside

UPDATE 8/78 AMOUNT $11,168

DESCRIPTORS
*Anthropology
Audio Visual Multimedia; Autotutorial

723011 A

# TITLE: DEVELOPMENT OF HUMAN RELATIONS SKILLS FOR TEACHER TRAINEES THROUGH A MODIFIED MICROTEACHING PROGRAM

As of September, 1973, all candidates for teacher certification in Wisconsin were required to be involved in human relations training. The Project Directors proposed to adapt the microteaching procedure for preparing teacher trainees in human relations skills. Microteaching is a scaled down teaching situation in which a teacher trainee teaches a brief lesson (5 to 20 minutes) to a small class (3 to 10 students). Here the teacher concentrates on improving a single teaching skill, i.e., questioning, reinforcement, or motivation. Microteaching had been used primarily in teaching cognitive skills. The Project Directors proposed to develop modules for training in behavioral skills. They identified three basic clusters of human relations skills that are pertinent to teacher preparation: peer interaction, eliciting of student expression of feeling, and the responding to student expression of feeling.

LATEST REPORT: Eight videotape models, one for each of eight interpersonal skills needed in teaching, were produced. Each model, which runs for approximately twelve minutes, consists of an introduction and description of the skill followed by a teaching demonstration in a classroom. An accompanying manual was also developed, which presents an overview of the interpersonal skills approach, a description of each skill, a typescript of the videotape models, and an assessment sheet to evaluate student performance in each of the skills.

The interpersonal skills for teachers program is now used in teacher preparation at UW-Parkside.

Teresa Peck
Education
UW-Parkside

UPDATE 8/78 AMOUNT $10,017

DESCRIPTORS
*Teacher Education
Models; Practica; Audio Visual TV Taped

723012 A

TITLE: VIDEOTAPING A PRE-ARCHITECTURE ORIENTATION COURSE FOR DISTRIBUTION AS A CREDIT COURSE AT VARIOUS UNITS OF THE UNIVERSITY OF WISCONSIN SYSTEM

In 1968 the first School of Architecture in the UW System was established at UW-Milwaukee. Part of its identified mission was to serve the entire state by acting as the recipient of properly qualified pre-architectural students coming from the four-year institutions of the UW System. Since there were no architecture programs on any other campuses, an efficient and effective way to provide maximum contact with students in the UW System seemed to be to develop a videotaped introduction to architecture course for distribution. Thus it would be possible for students to test their interest in architecture before leaving their own campuses.

LATEST REPORT: This project was undertaken and completed in 1973. Parts were revised in 1974 with School of Architecture funding. Two courses of 28 lectures each were videotaped and now comprise a set of pre-architecture offerings. The tapes have been used at UW-Platteville, UW-Oshkosh, and UW-Green Bay to prepare students for transfer at the junior level into the professional architecture program. The videotaped courses are available to all campuses.

Separately prepared texts, Introduction to Architecture and Introduction to Architectural Studies, are now available. INACTIVE.

Timothy McGinty
School of Architecture
UW-Milwaukee

UPDATE 6/82 AMOUNT $15,728

DESCRIPTORS
- *Architecture
- Audio Visual TV Taped

723013 A

TITLE: A PROPOSAL TO STUDY THE EFFECTS OF A MODULAR CURRICULUM ON THE UW CENTERS

Part of the special educational mission of the UW Centers is to meet the needs of two unique sets of students: adult students and incoming freshmen who work part or full time to finance their education. Many are first generation college students and some are poorly motivated. The UW Centers had effectively met the challenge of retention by developing programs which emphasize small classes and extensive teacher-student contact. A modularized curriculum can have considerable advantage to students and instructors in that scheduling and subject matter can be more flexibly arranged and courses can be made to respond to student needs more quickly.

Inasmuch as a modular curriculum would be a major departure from existing curricular patterns, its effect on student loads and enrollment patterns needed to be investigated. Since student enrollment patterns also determine faculty load patterns, the effect of such a program on faculty loads and teaching patterns needed to be determined. Not the least of the problems to be examined were those associated with scheduling. The basic question--would additional flexibility in scheduling enhance student motivation and student success in the Centers--needed to be explored.

LATEST REPORT: A major initial step was a student questionnaire designed to evaluate student interest and need for a modular form of programming. Of 1,155 questionnaires sent out, 345 students responded. It was clear that computer support for scheduling would be a necessity. Faculty need to be educated into the nature and use of a modular system and need to feel comfortable with it. Modular curricula are probably more easily instituted on small campuses than large campuses. INACTIVE.

Thornton Liechty
Assistant to the Chancellor
UW Center System

UPDATE 8/83 AMOUNT $16,600

DESCRIPTORS
*Modular Scheduling
Modular Instruction; Academic Program Evaluation

THERE IS NO SERIES FOR 1973-74

# GRANTS AWARDED

## 1974 - 75

745001 A

TITLE: DEVELOPMENT OF AN INTERDISCIPLINARY AESTHETIC EDUCATION CENTER

Faculty from the Art, Music, and Physical Education Departments agreed that elementary school children would have a deeper, more integrated understanding of basic concepts if arts education were coordinated. The Project Directors developed a summer workshop entitled "An Interdisciplinary Workshop in Art-Music-Physical Education" and were strongly encouraged to expand the concept and implement it in the teacher education curriculum. They designed a 34-hour interdisciplinary aesthetic education minor, and developed an aesthetic education center.

LATEST REPORT: The Aesthetic Education Center was developed with three major components: a materials resource center, an educational utilization center, and educational programming in aesthetic education.

Aesthetic education classes were a regular part of the curriculum at UW-River Falls' Ames Laboratory School while it was operational. The Aesthetic Education Center provides a resource area in which arts related materials are available for university students, faculty, and area school teachers. It includes a gallery area and space for university students to experiment with learning environments for young children. In addition, there is an activity area which has become the aesthetic education classroom.

Courses are being offered on a regular basis in the interdisciplinary aesthetic education minor. Core courses within the minor are offered at the graduate level. Aesthetic education staff members provide inservice opportunities for area teachers. The Center staff has presented workshops and demonstration sessions at a number of state and national meetings.

Ila June Brown-Pratt
Music
UW-River Falls

Carol Lebreck
Physical Education
UW-River Falls

UPDATE 8/85

AMOUNT $14,750

DESCRIPTORS
*Art; *Interdisciplinary; *Music; *Physical Education; *Teacher Education
Course Development; Team Teaching; Centers

745002 A

## TITLE: AN INTERDISCIPLINARY MEDIA APPROACH TO COMPOSITION

Given the large number of departments and special services offering instruction in composition, there was a need for interdisciplinary exchange of theories and methods. This project sought to demonstrate that certain media elements could be turned into tools of self-expression.

Personnel from several departments conferred regularly, establishing procedures for dialogue and visitation of three courses: "Creative Screenwriting," "Film Production," and "Special Studies in Media." The counseling center and writing laboratory were also involved. Specific interdisciplinary experiments used student volunteers. A summer workshop, "Creative Media Composition," was structured as a sequence of concurrent exercises and projects designed to facilitate self-expression without sacrificing traditional academic concepts of unity, coherence, and emphasis.

LATEST REPORT: The summer workshop proved highly successful. The workshop had strong appeal for minority students, who found that they could relate effectively to media activity. The experience of seeing and evaluating student exercises and group projects helped to sharpen the critical sense and encouraged an appreciation of the need for precision, clarity, economy, and emphasis.

Work done on this project indicates strongly that students work with enthusiasm and even excitement when they are given a chance to "talk back to the tube" with the electronic media as tools. Work done since the grant period shows that student writing improves when the student is asked to compose pieces that will challenge and interest the student. It has been demonstrated that the interdisciplinary approach to composition with media is a promising, although complex, means to use the intense interest that many students have in the media explosion which has so affected our culture.

Ronald V. Ellis
English
UW-Whitewater

UPDATE 8/78 AMOUNT $8,580

DESCRIPTORS
*Basic Skills English Composition; *English; *Film Studies
Audio Visual Multimedia

745003 A

TITLE: "FUTURE WORLDS:" AN INTERDISCIPLINARY COURSE ON THE FUTURE

Future studies is systematic study for the purpose of creating intelligent action and change in human society. It stresses the roles of alternatives and choice in the search for a higher quality of human life. Faculty, students, and administrators, unified by future-oriented interests, planned a course that would be the first stage in developing UW-Superior into a regional center for future research and instruction.

LATEST REPORT: The course was a multidisciplinary introduction to futuristic thinking, forecasting, and problem solving. Students were encouraged to probe personal and group attitudes about the future, identify and forecast major trends and problems facing humankind, and propose possible solutions for anticipated problems. Emphasis was on the interrelatedness of problems and the need for multidisciplinary cooperation. The course involved faculty members from UW-Superior, UM-Duluth, St. Scholastica, and Northland College. Students worked in task forces dealing with various trends and problems. Faculty members acted as facilitators to the groups and to individual students. Students shared responsibilities for evaluation.

The course was a success. The original course, "Creating Alternative Futures," was well publicized and attracted nearly 100 students. Because of the high visibility and popularity of the courses, many faculty members felt freer to develop more future oriented courses within their own disciplines. Hence there has been a proliferation of courses which encourage the examination of alternative futures. The demand for such courses has been high.

In addition, the course fostered interinstitutional cooperation and cross registration among four campuses. INACTIVE.

Chairperson
Geosciences
UW-Superior

UPDATE 8/85 AMOUNT $2,800

DESCRIPTORS

*Interdisciplinary; *Future Studies; *Geology
Course Development; Simulation Game; Team Teaching

745004 A

## TITLE: SELF-PACED INSTRUCTIONAL PACKAGES ON UTILIZING LIBRARY RESOURCES

In order to meet the need for basic instruction and orientation in the use of library resources, especially among freshmen and transfer students, thirty unique instructional packages on using library resources were designed and produced. The packages were developed from a survey identifying the thirty questions most often asked in the library. Evaluation techniques planned were user and faculty questionnaires, verbal interaction with users, and user statistics showing frequency of program use and number of handouts and worksheets used.

LATEST REPORT: Many of the original instructional packages are on display and in daily use in the library. Others have been modified or withdrawn as instructional needs changed. They are used by librarians as a teaching resource; students use them as a key to specific needs, frequently after referral by an instructor or librarian; and faculty members use them personally and recommend them to classes. Library staff members are relieved from answering the same questions repeatedly, and thus can use their time more effectively for reference work or teaching.

Positive experience with this program has led the library staff to plan and develop further instructional packages. In addition, the staff has reexamined the library's approach to orientation of patrons.

Formal evaluation of instructional packages shows an improved attitude toward library orientation among users as well as an increased ability to use both general and specific library resources.

In addition to the thirty instructional packages now in use, a copy of each package in its original format is available for loan from Project LOEX, Center of Educational Resources, Eastern Michigan University, Ypsilanti, Mi 48197.

The final report of the project was published in Resources in Education (April 1975), OE098999. INACTIVE.

Brooke Anson
Library Learning Center
UW-Stout

UPDATE 8/85 AMOUNT $10,940

DESCRIPTORS
*Library Resources
Library Skills; Autotutorial

745005 A

# TITLE: A PRACTICUM PROGRAM FOR ELEMENTARY EDUCATION MAJORS

Elementary education majors had been receiving limited classroom experience prior to their student teaching; public school teachers and administrators were only slightly involved in the university's teacher education program. Therefore, a cooperative plan was developed whereby 20-25 elementary education students were placed as teacher assistants in Madison School, Stevens Point. During a semester, students were to be involved three full days a week in all phases of instruction and school operations. To provide feedback necessary to evaluate the students' professional development and competence relative to performance objectives for instruction modules, videotape units, and videotapes were purchased.

LATEST REPORT: Porta-pack videotape units were used in several ways in the Pre-Student Teaching Center program. Students made videotapes to provide evidence that they had completed specific objectives of instructional modules; they recorded teaching activities for self-evaluation; and they used tapes as teaching devices to provide feedback to children with whom they were working. Each student was required to accumulate about one hour's worth of recorded videotape per semester.

Evaluation consisted of an intense review of the recorded tapes. In addition, each teacher assistant, university instructor, classroom teacher, and school administrator involved in the project was asked to complete questionnaires evaluating the use of videotaping in the classroom.

The equipment obtained as a result of this project has become an important instrument in the Pre-Student Teaching Center for the study of teaching, giving approximately 70 practicum students each year the opportunity to observe, record, and analyze their teaching behavior and identify areas for improvement. Students have expressed very positive responses to videotapes as a tool for self-assessment. The tapes also serve to involve public school personnel in teacher preparation programs and the evaluation of pre-service teachers. Since this initial project, the Center is now working with seven elementary schools in Stevens Point.

Betty Allar
School of Education
UW-Stevens Point

UPDATE 8/83 AMOUNT $8,113

DESCRIPTORS
*Elementary Education; *Teacher Education
Practica; Audio Visual TV Taped

745006 A

TITLE: PREPARATION OF 15 LABORATORY EXPERIENCES FOR WATER 180, "INTRODUCTION TO WATER RESOURCES"

The College of Natural Resources at UW-Stevens Point was probably the first to require an introductory water course for all students majoring in the area of natural resources. The course was a lecture discussion with required outside readings. Water 180 was one of four introductory core courses required by the college for graduation. Yet it was the only one of the four that had no laboratory work. The lack of physical facilities was the major limitation, but since moving into the new natural resources building in Fall 1973 this limitation no longer existed. In addition, there were many types of workbooks or laboratory experiences available for traditional courses such as soils or water chemistry, but there were no laboratory workbooks designed for the broad coverage of water resources that the UW-Stevens Point course required. This proposal was to design a series of laboratory experiences with explanatory notes and work sheets.

LATEST REPORT: The laboratory exercises are now available and used by instructors in their water courses. In addition, approximately five of the experiences are used in the general conservation of natural resources course that is required of education majors. A direct result of developing the laboratory course was that program scope and sequence were improved and subject matter was better coordinated among the several teachers involved in teaching the course.

During one semester in 1974, two Water 180 sections presented the same subject matter; one section used a one-hour lecture period while the other used the two-hour laboratory. Those using the laboratory had an 11% improvement in test performance. From oral and written comments, it was very apparent that the laboratory method had benefits such as increased interest, stimulation, and positive attitude changes.

Laboratory exercises are now used in ten water laboratories per week.
INACTIVE.

Irving L. Korth
Natural Resources
UW-Stevens Point

UPDATE 8/85 AMOUNT $3,350

DESCRIPTORS
*Natural Resources
Laboratory Sciences

745007 A

TITLE: IMPROVEMENT OF LABORATORY INSTRUCTION IN GENERAL ZOOLOGY AND VERTEBRATE EMBRYOLOGY THROUGH USE OF AMPHIBIAN LARVAE AND ADULT MAMMALS

In 1973, the study of anatomy in the laboratory portion of general zoology was carried on using preserved specimens, a method with inherent drawbacks. Although the fundamentals of dissection and anatomical study continued to be taught using these specimens, the use of fresh, recently killed mammalian specimens would stimulate and increase student interest. The advantage of using freshly killed mice would be that their tissues remain alive for a brief time and retain normal color and consistency for most of the laboratory. Thus smooth muscle contractions would be observable. In addition, the use of freshly killed specimens would help the student bridge the gap between the macroscopic study of anatomy and the microscopic study of tissue structure, by giving the student the opportunity to prepare tissue slides. In like manner, the introduction of living frog larvae (tadpoles) into the laboratory portions of both general zoology and vertebrate embryology courses would be helpful in enabling the students to view the effects of various substances on the circulatory system. Since the skin of the tadpole is thin and almost transparent, blood vessels and circulating blood are visible in the tail fin; the beating heart may also be seen.

LATEST REPORT: The project provided the supplies and permanent equipment required for maintaining a colony of mice and a supply of frog larvae. These animals have been used in general zoology and vertebrate embryology. They have also been used in parasitology, animal behavior, animal physiology, and biological microtechniques. The study of freshly killed adult mouse specimens resulted in an enhancement of student interest in anatomical dissection and study.

In recent years, the frog larvae have been discontinued, but the mouse, rat, and hamster colonies have been expanded and supply several laboratory experiments in the general zoology course. Animal care facilities have been renovated and additional remodeling of the animal rooms is planned in an effort to be in full compliance with NIH guidelines. Several thousands of dollars were spent recently in the acquisition of several banks of new stainless steel cages.

Chairperson
Biology
UW-Eau Claire

UPDATE 8/85 AMOUNT $1,159

DESCRIPTORS
*Biology
Laboratory Sciences

745008 A

# TITLE: PROPOSAL TO IMPROVE, DEVELOP, AND IMPLEMENT EXPERIMENTS IN THE LABORATORY PORTION OF THE BIO-GENERAL PHYSICS COURSE

In the past at UW-River Falls, the life science students (i.e., biology, food science, pre-medicine, pre-veterinary) met their one year of general physics by taking a one-year course offered for all students. To provide the life science student with a background in physics which is meaningful and applicable to current developments in these areas, the physics department developed a biologically-oriented, rigorous general physics sequence. New and innovative ideas were incorporated into the lecture content of the traditional one-year general physics course; the laboratory portion was at a stage of development where additional funding would allow development of a program better matched to the interests of students in bio-general physics.

LATEST REPORT: While most of the laboratory exercises were designed to produce expertise in instrumentation and analysis, the final quarter of the bio-general physics course was designed to use this knowledge in direct biologically oriented applications. Amplifiers were purchased with an isolated power supply for safety. Two experiments were developed and implemented: use of a cardiogram, electrooculogram and electroencephalagram; and a study of the conduction of a nerve impulse along a myelinated axon. Two additional experiments were designed and developed. The project was successful. Two of the proposed laboratory experiments have been incorporated into the program and are received very well by the students: EKG and nerve conduction. The gel experiment is used either in the laboratory or as a lecture demonstration. The fluorimeter experiment is used with additional hardware as a feature demonstration. Welcome, unanticipated outcomes are the flexibility of the hardware for use in other courses and student interest in pursuing additional independent study using the equipment.

Neal H. Prochnow
Physics
UW-River Falls

Wayne W. Sukow
Physics
UW-River Falls

UPDATE 8/83

AMOUNT $13,558

DESCRIPTORS
*Physics; *Biology
Laboratory Sciences

745009 A

TITLE: CALCULUS, A MORE FELXIBLE APPROACH

The sequence of calculus courses offered on the campuses of the UW-Center System caused unnecessary difficulties for many students taking calculus, for some who were not taking it but wanted to and for the mathematics faculty. The problem was the inflexibility of the sequence--two five-hour courses followed by two four-hour courses. In addition, an increasing number of students in calculus courses were not mathematics or science majors, but those who planned to major in business or the social sciences. Most of these students had no need to learn some of the sub-topics in the calculus course. The presence of non-mathematics majors in the rigid five-credit course probably hampered the more mathematics-oriented student by requiring that the class move at a slower pace. This project undertook to divide the content of the calculus sequence into more than one course each semester, each carrying less credit: a two- or three-credit basic course with one other one- or two-credit course each semester. The minicourses would emphasize applications, techniques, and topics not needed by all calculus students. Such a group of courses allows for differences in backgrounds and in needs, and allows calculus students more flexibility in topics they take and the rate at which they take them, without increasing instruction time.

LATEST REPORT: At the local level the project is successful. The scheduling of topics is logical and pedagogically sound. The rationale for the project proved to be correct. Separating the topics into main and satellite courses caused few continuity problems. Minor modifications have been made easily--i.e., scheduling certain topics at different times and expanding or contracting the number of scheduled class periods for certain topics. Students have been receptive to the program and have expressed an interest in formal systemwide acceptance of the modified courses.

The UW-Green Bay mathematics faculty, after seeing the project results, has divided the fourth semester of the calculus sequence into two courses. INACTIVE.

| | |
|---|---|
| Neil Stahl<br>Mathematics<br>UWC Fox Valley | Lyle Espenscheid<br>Mathematics<br>UWC Marinette |
| UPDATE 8/83 | AMOUNT $5,861 |

DESCRIPTORS
*Mathematics
Minicourse

745010 A

TITLE: VIDEOTAPE DEMONSTRATIONS OF SOUND GENERATION AND BASIC PRINCIPLES OF SOUND MEASUREMENT

In communicative disorders, students need background material about normal aspects of hearing. This requires knowing about physical principles underlying the production and transmission of sound and about electroacoustic instruments for generating, controlling, and measuring sound. In the past, live "on line" demonstrations were not fully effective for many reasons. Videotape offers a workable solution. In addition, by making the tapes part of the department's listening/viewing laboratory, students could review the tapes at their own convenience.

LATEST REPORT: This project developed videotape laboratory demonstrations dealing with physical principles related to sound generation and sound measurement for use in undergraduate courses in communicative disorders. Instruments discussed and demonstrated include the oscilloscope, function generator, noise generator, electronic counter, and phase shifter. Measurement examples of period, frequency amplitude, and phase are provided for simple vibrations (sine waves). Complex periodic and complex aperiodic vibrations and their measurement are demonstrated and their spectra described. Triangular waves, square waves, white noise, speech noise, vowel and consonant speech sounds, ambient noise, and power tool noise are all covered.

The videotapes are used routinely to supplement lecture and text material in courses in normal aspects of hearing, introduction to communicative disorders, introduction to audiology, and hearing science. Student evaluations show that the tapes are quite helpful and fulfill their purpose. The videotapes may be useful to individuals at other campuses who engage in teaching about sound generation and transmission. Videotapes are available on a loan basis to interested faculty at UW System institutions. Contact Professor Karlovich to make arrangements.

Raymond S. Karlovich
Communicative Disorders
UW-Madison

UPDATE 8/79 AMOUNT $4,915

DESCRIPTORS
*Communicative Disorders
Audio Visual TV Taped

745011 A

TITLE: OCEAN SCIENCES LABORATORY

Since Geology 150, "Introduction to the Ocean Sciences," was first offered in 1967, students have enrolled in ever increasing numbers. Yet one of the greatest difficulties apparent to both teachers and students in Geology 150 was that a lecture course could not by its nature demonstrate the transition from observations and data collected in the field to the general conclusions made about oceanic process. Students who wanted to become more directly involved had no format for synthesizing field and laboratory observations and data to expand their understanding of the principles of oceanography. Therefore, funding was requested to design, develop, and test a new two-credit laboratory course titled "Ocean Sciences Laboratory" which would parallel the three-credit lecture course.

LATEST REPORT: The laboratory coordinated the collection of observations and data from both the field and shipboard cruises with the synthesis of these data in a laboratory situation. In addition, numerous laboratory demonstrations using scaled models emphasized the oceanic and lake process. Students participated in field, cruise, and laboratory experiences, and applied the methodological techniques, data collecting, and analysis required in the ocean sciences fields of biology, chemistry, physics, geology, and engineering. Another positive outcome of the laboratory course was that it provided an experience which permitted students to determine whether they had a professional interest in ocean science. "Ocean Sciences Laboratory" has become part of the undergraduate curriculum. Developing and testing the laboratory further emphasized the need that freshman or sophomore students have a sound basic science background to appreciate fully an integrated science such as oceanography. The importance of a "hands on" experience to enhance a student's full potential was also demonstrated.

Norman Lasca
Geological Sciences
UW-Milwaukee

UPDATE 8/78 AMOUNT $3,953

DESCRIPTORS
*Ocean Sciences; *Geology
Laboratory Sciences

745012 A

# TITLE: INTEGRATING SEVERAL INTRODUCTORY PHYSICS COURSES INTO A SET OF INDIVIDUALIZED HALF-CREDIT MODULES

The role of the UW-Stout Physics Department is that of a service department for the institution's various specialized programs. The needs of each program for instructional activities in physics are distinct, yet it is not practical to have a separate three-to-five credit course for every specialty. The project proposed to integrate all basic physics courses, restructuring the existing series of four laboratory-based physics courses into one functional unit. The unit would consist of half-credit modules; satisfactory completion of each module would be established by computer-generated tests.

LATEST REPORT: Individualized instructional techniques were developed and integrated into the total system with a block of explicitly defined measurable objectives and prerequisites. Learning and instructional activities were coordinated and carried out in a single learning center fully staffed by faculty. Continuous evaluation of the students' progress was made possible by the use of terminals connected to the university's timesharing computer.

Since Fall 1974, the introductory physics courses covering mechanics, electricity, light, and sound have been taught in a semi-self-paced, individualized format. Courses typically involve about 300 students per semester, and all use the materials developed with the initial project or recent modifications thereof. Purchase of computer terminals has allowed Project Directors to implement a totally computer-managed form of instruction.

Project Directors do not supply copies of the computer-managed physics programs, but they are willing to aid others in the development of such a system of instruction.

Allan Hilgendorf
Physics
UW-Stout

Mark Larchez
Physics
UW-Stout

Steve Fossum
Physics
UW-Stout

UPDATE 8/78

AMOUNT $12,000

DESCRIPTORS
*Physics
Computer Managed Instruction; Modular Instruction

745013 A

# TITLE: THE CREATION OF VIDEO AND AUDIO CASSETTE RECORDINGS TO BE USED AS INSTRUCTIONAL MODULES IN THE PRODUCTION ASPECTS OF TELEVISION

Conventionally, the laboratories in television production take place in a television studio housing expensive and complex equipment. The purpose of the laboratories is to provide substantial practical experience in studio exercises to give students the requisite skills for creatively and effectively working in the medium. Such instruction necessarily restricts enrollments to those students with professional ambitions. The students not dedicated to this goal but nonetheless interested in the role and use of television as a mass medium are foreclosed.

LATEST REPORT: As a response to this problem, the Listening/Record booths in Vilas Hall were designed for individual and small group instruction using audio and videocassettes and film. This project developed a series of video and audiocassette recordings to instruct students in the essential elements of the production process. The television components, sound, picture, editing, and setting, were considered in terms of their aesthetic impact on television content and as an aspect of television production. While these modules were not a substitute for studio experience required for the television production courses, they were of great value as a kind of media textbook.

Out of this research and the subsequent efforts supported by a Knapp Bequest, the courses offered by Communication Arts in the area of television production have increased the material covered, the level of skill acquired, the depth of aesthetic understanding, and the analytical abilities of 40 percent more students. The project helped develop courses that provide a balance between techniques and aesthetics. By using the audio and visual cassettes, each student may undertake disciplined experimentation in television production aesthetics and may work privately, may repeat material, may manipulate one variable at a time, and may receive both student and faculty feedback on the results of the manipulations. The project continues to be successful; approximately 150 students are involved each semester.

Richard G. Lawson
Communication Arts
UW-Madison

UPDATE 8/78 AMOUNT $4,685

DESCRIPTORS
*Communication Arts
Modular Instruction; Audio Visual TV Taped

745014 A

## TITLE: A SELF-PACING PROGRAM FOR ENGLISH COMPOSITION

Students come to English 010 with different skills and problems. Both the instructor's and the student's time might better be used if a system were available which allowed students to acquire skills in a more flexible fashion, but one not so impersonal as the "programmed" or machine-oriented courses in basic composition.

This project included these provisions: identification of the skills needed for exemption from first semester composition; identification of pre- and posttests for measuring student achievement; construction of a personalized, self-paced system of instruction. The project was to incorporate modular instruction, student tutoring, and peer group reinforcement.

LATEST REPORT: Initially the program was tried in four sections of English 010 (100 students). Emphasis was placed on establishing the procedures for allocating faculty workload, on monitoring student activities, and on materials and a model of instruction. The major evaluation procedures were testing and questioning the students who took the course. The effectiveness of the program was measured by comparing student writing in the four sections with that in the standard sections of the same course.

The vast majority of students who finish the course show significant improvement, and have consistently stated that they prefer the self-paced approach to learning. The results have been fully integrated into the standard composition program at UW-Parkside. A self-paced program for English composition works and can be used in sections with as many as 45 students. There has been a growing recognition of the need for the kind of objective testing of composition skills which is emphasized in the program.

| | |
|---|---|
| Walter Graffin<br>English<br>UW-Parkside | Peter Martin<br>English<br>UW-Parkside |
| UPDATE 8/78 | AMOUNT $8,000 |

DESCRIPTORS
*Basic Skills English Composition
Autotutorial

745015 A

TITLE: POLITICAL SCIENCE INTERNSHIPS

For a number of years the Department of Political Science at UW-Madison had provided students on an ad hoc basis the opportunity to participate in political internships in legislative offices of the State Capitol. Students learned of these opportunities through informal mechanisms and word of mouth. These students registered for independent study and received some faculty supervision in the process. In 1973, the Department wished to explore the possibility of establishing the broadest possible program of student internship for academic credit in order to link department teaching and classroom experience with relevant practical political experiences. The Department proposed salary support for an assistant professor to permit him to examine fully the types of internship programs administered by other universities, the techniques and arrangements for effective administration, and the amount and type of institutional support required.

LATEST REPORT: As a result of this project the Department of Political Science has developed a formal structure for a legislative internship program, embodied in a new course entitled "Legislative Internships." This course is a seminar which all interns are required to take together with their internship experience. The internship continues to be an integral part of the political science program and provides an opportunity for from one to two dozen students to participate in legislative internships each year.

Currently, internships in the legislature and elsewhere in state government and politics have become an important part of the undergraduate curriculum. The internship program has proven to be a valuable learning experience for the students, giving them a bridge between the theoretical orientation of the classroom and the practical world of government. Such a program also has the potential of forging links with and being of service to legislators and other state government officials.

Chairperson
Political Science
UW-Madison

UPDATE 8/83 AMOUNT $3,025

DESCRIPTORS
*Political Science
Course Development; Practica

745016 A

TITLE: UTILIZATION OF PARENT-EDUCATOR TEAMS IN TEACHING FOR A MULTICULTURAL SOCIETY

In the past, many newly certified teachers have been placed in area schools containing significant numbers of students from minority cultures. In many cases, these initial cross-cultural experiences created unnecessary apprehension and trauma for the teacher, sending him further into his cultural cocoon.

This project was to supplement "Teaching for the Multicultural Society" by setting it in the inner city. Teacher trainees were to be taught by a multicultural team of an education professor and four inner city parents. Thus the project would bring together the cognitive, teaching expertise of the professor, and the affective, experiential expertise of the parents. In addition, the parents would act as contacts to bring additional community resource people into the program.

LATEST REPORT: Evaluation methods included extensive videotaping of class/team or class/neighborhood resources interactions, for both internal class evaluation and external team and observer evaluation. Class participants kept journals and an observer sitting in on sessions kept an evaluative journal. The teaching team composed a final report on attitudinal and interactional changes in students.

The course has become a standard part of the teacher training requirements at UW-Parkside. Although the parent team itself was repeated only one more time (the logistics of hiring and maintaining a team of this type present great difficulty), the concept of relying heavily on community resource people and field trips into the community has become a standard part of the three sections of the course.

Professor Glenn Doston, Department of Education, UW-Parkside, presented a paper on the methodology to the National Council of Social Studies, Atlanta, 1975. Course outlines are available. INACTIVE.

Marvin J. Happel
Division of Education
UW-Parkside

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|---|---|
| UPDATE 8/85 | AMOUNT $7,245 |

DESCRIPTORS
*Teacher Education; *Urban Studies
Field Studies; Team Teaching

745017 A

TITLE: AN EXPERIMENTAL COURSE IN THE PRINCIPLES OF ECONOMICS

The goal of the principles of economics course is to equip the student with certain tools of analysis. Too often, attention to theoretical tools leaves too little time for application. Since computer assisted instruction (CAI) allows learning outside the classroom, this project undertook to implement and evaluate teaching theory by this technique.

LATEST REPORT: Two types of CAI materials were employed; 1) the tutorial lesson using Instructional Dialogue Facility (IDF), a type of CAI which reinforces textbook readings and enables the instructor to identify areas in which students are having particular difficulty, and 2) the simulation game, in which economic process is simulated in the form of a computer model. Fourteen tutorials, five simulation games, and one simulation were developed for the experimental sections.

The tutorials and simulation games have been integrated into the principles of macroeconomics program. The materials are being used each semester by a majority of the principles of economics instructors.

The evaluation considered two criteria, cognitive, and affective achievement. With respect to cognitive achievement, analysis indicated a statistically significant pre- to post-test improvement for simple questions on the evaluation instrument. No evidence of significant improvement was found for recognition and understanding questions. Analysis also indicated that experimental treatment made no significant contribution to student attitudes (the affective domain) towards economics.

A two-volume report, "CAI Materials for an Introductory Macroeconomics Course," and a magnetic computer tape (compatible with the Hewlett Packard 2000 access time shared computer) of all materials are available from the UW-La Crosse center for economic education for a $50 fee. INACTIVE.

L. A. Daellenbach
Economics and Finance
UW-La Crosse

R. E. Schoenberger
Economics and Finance
UW-La Crosse

W. E. Wehrs
Economics and Finance
UW-La Crosse

UPDATE 8/85

AMOUNT $6,750

DESCRIPTORS
*Economics
Simulation Game; Computer Autotutorial

745018 A

TITLE: A TEACHER TRAINING PROGRAM FOR GRADUATE TEACHING ASSISTANTS IN ECONOMICS

Graduate assistants in the Department of Economics teach over 21 percent of the total undergraduate classroom contact hours. The Department of Economics proposed to conduct an intensive program in teacher training for graduate assistants and interested faculty to address directly the requirements of adequate preparation for teaching.

LATEST REPORT: A five-day program was held in August 1974 covering the following topics: "Setting Instructional Objectives," "Teaching Methods for the Small Discussion Group," and "Videotaping as a Method for the Evaluation and Improvement of Teaching." The sessions were preserved on videotape for subsequent use. A second phase included the videotaping and evaluating of two classroom teaching experiences of each teaching assistant in the program in Fall 1973. A program manual was developed for national distribution by the lecturers who conducted the 1974 program.

The formal evaluation procedure centered on the presence or absence of a significant increase in student learning (as measured by a nationally normed test in basic economics) before and after the workshop training. On an informal basis, most of the student and faculty participants in the workshop were enthusiastic about the sessions and stated frequently that the training had been helpful to them, although no statistically significant increase in student learning was observed.

The Department of Economics has urged the Project Directors to continue both the annual training sessions and the videotaping of classroom performance. They plan to conduct the training sessions, at least in an abbreviated form, and to make the videotaping available on a voluntary basis to teaching assistants and faculty.

Arrangements for the use of the videotapes and program manual can be made with the authors.

Leon M. Schur
Economics
UW-Milwaukee

G. Richard Meadows
Economics
UW-Milwaukee

UPDATE 8/78

AMOUNT $3,811

DESCRIPTORS
- *Economics
- Teaching Assistant Training

745019 A

TITLE: AN INTEGRATED PROGRAM FOR UNDERGRADUATE STUDIES OF URBAN PUBLIC POLICIES

In most political science courses systematic efforts to investigate significant societal problems have usually been limited to secondary analysis of prior research. The choice of such an instructional strategy has been dictated inevitably by the inability of individual instructors and their students to initiate and complete a major research effort; students have not been able to execute a research project of considerable magnitude because any such project, properly conducted, requires more time and more participants than are available in any one course in any one semester. This project addressed the problem by unifying the focus of certain substantive and all methodological course offerings around an annual student operated research project.

LATEST REPORT: Students from each course tackled critical components of the research project. The experience is vital for three reasons. First, undergraduate students must learn the creative aspects of problem-solving in order to respond rationally to demands arising in an increasingly complex society. Second, as students become aware of the causal connections between political phenomena, they can more effectively make responsible recommendations for the selection of means to achieve desired social ends. Third, employment opportunities are most available to those individuals with definite skills. This project led to the acquisition of these skills.

In each of the first two years of the program, variable numbers of courses have devoted some instructional time to investigation of a public policy problem of significance to the urban setting. A graduate student assigned to the political science laboratory has been designated each year to assist with the technical aspects of the survey component. Overall direction each year has revolved among faculty teaching in the public policy area. The course in survey research has been focused on the survey component of the project. INACTIVE.

Eric C. Browne
Political Science
UW-Milwaukee

UPDATE 8/83 AMOUNT $7,000

DESCRIPTORS
*Political Science; *Urban Studies
Undergraduate Research

745020 A

TITLE: "THE CITY THROUGH TIME AND SPACE"

This course was team taught by a historian and two sociologists to provide students with a historical and cross-cultural perspective on contemporary urban life. The historical portions were covered in lectures and discussions with the whole class; the cross-cultural dimensions were covered in smaller groups. Half the class focused upon Latin America with one sociologist; half focused upon England and Northern Europe with the other.

A serious problem existed in trying to coordinate simultaneously both the Latin American and European topics with the historical portion. Unless forced, the analytical issues dealt with in the three contexts emerged at different times in the semester.

LATEST REPORT: To give the course the coherence that the faculty and students desired, the historical lectures were placed on videotape (20-30 minute segments). Thus they were used by each sociologist as a focus for discussion when appropriate. It was possible to eliminate the large lecture in favor of small group discussions throughout.

The use of mediated instruction has been successfully developed in a manner which is not depersonalizing to the students and which integrates the historical and socio-cultural perspectives in examining urban themes. It has enabled an integrated, interdisciplinary approach to an interdisciplinary problem, drawing upon disciplinary expertise while reducing the class time the expert must give to lecturing.

"The City Through Time and Space" became a 300 level urban analysis course. The videotapes are used in this course and in the course, "Evolution of Human Settlement and Communities." Student evaluations indicate that the tapes are well received and a valuable addition to the course.

Peter J. Kellogg
Urban Analysis
UW-Green Bay

UPDATE 8/79 AMOUNT $7,472

DESCRIPTORS
*Interdisciplinary; *History; *Sociology; *Urban Studies
Audio Visual TV Taped

745021 A

TITLE: CHEM TIPS: INDIVIDUALIZED INSTRUCTION IN LARGE CHEMISTRY COURSES

Each semester approximately 4,000 students enroll in undergraduate chemistry courses. The vast majority of these students are not chemistry majors. The proposal was to investigate the feasibility of adapting Teaching Information Processing System (TIPS) to undergraduate instructional programs in science. TIPS is a professor-written, computer scored survey designed to monitor each student's progress, identify specific weaknesses and strengths in understanding course material, and prescribe individual study assignments.

The project was to be implemented in two phases. The first phase dealt with implementing CHEM TIPS during Spring 1974 in large undergraduate chemistry courses at UW-Madison. The second phase dealt with designing and implementing a CHEM TIPS workshop for other professors.

LATEST REPORT: By 1975, when CHEM TIPS was in its third year, several professors had adopted it for use in undergraduate courses. CHEM TIPS is used in freshman chemistry courses taught at UW-Madison, UW-Milwaukee, UW-Superior, UW-La Crosse, UW-Stevens Point, the University of Colorado, and the City University of New York. It was also used in the undergraduate physical chemistry course at UW-Madison. System users are satisfied with the frequent feedback on student progress, which is most valuable in terms of modifying course pace and teaching strategies. As of a Spring 1974 survey, there was little doubt that students responded favorably to CHEM TIPS; more than half the students completed the suggested assignments and found them helpful.

Two articles report the results of the program: Shakhashiri, Bassam, "Computer Individualized Chemistry Course," Chemical and Engineering News, 52 (17 June 1974), 19-20; Shakhashiri, Bassam, "CHEM TIPS: Individualized Instruction in Undergraduate Chemistry Courses," Journal of Chemical Education, 52 (September 1975), 588.

(see also 778016 B)

Bassam Shakhashiri
Office of Assistant Director
  for Science and Engineering Education
National Science Foundation
Washington, D.C. 20037

UPDATE 8/78 AMOUNT $22,613

DESCRIPTORS
*Chemistry; *Faculty Development
Computer Managed Instruction

# GRANTS AWARDED

## 1975 - 76

756001 WC

TITLE: DEVELOPMENT OF COMPETENCY STATEMENTS AND PRECISE INSTRUCTIONAL OBJECTIVES FOR EDUCATIONAL PSYCHOLOGY

Courses in educational psychology vary greatly from university to university due to the lack of a generally recognized set of competency statements and instructional objectives. The content of most of the courses has been a function of the special interests of the instructor. Since educational psychology is a requirement for teaching certification in the state of Wisconsin, a set of competency statements and objectives should be transportable to all universities.

The competency statements and objectives were to be generated through a review of the literature, current courses in educational psychology, current competency-based teacher education programs, and current teacher task analyses. Needs perceived by students, experts, program directors, and practicing teachers would also be considered, and representatives of these groups would be asked to validate the competency statements and objectives.

LATEST REPORT: The validated competency statements and objectives have been adopted by the faculty who teach educational psychology. The project staff received $5000 funding in 1979-80 to develop and/or acquire resources for individualized instruction modules to be made available to the educational psychology teaching staff. These resources have been categorized according to competency and are available in the teacher education resource center at UW-Stout.

| | |
|---|---|
| Virginia Peter<br>Education and Psychology<br>UW-Stout | Harlyn Misfeldt<br>Education and Psychology<br>UW-Stout |
| UPDATE 5/82 | AMOUNT $9,294 |

DESCRIPTORS
*Educational Psychology; *Teacher Education
Competency Based Instruction

756002 WC

# TITLE: A CONFERENCE FOR THE COLLEGE OF EDUCATION TO DEVELOP A COMPETENCY-BASED MODEL WITHIN THE PROFESSIONAL CORE CURRICULUM

The proposed three-week conference on competency-based curriculum was intended to inform staff about the process of this method of instruction and to focus the efforts of the entire faculty of the college of education on a review of all undergraduate teaching majors and minors, to result in the possible development of a competency-based model for UW-La Crosse. The first week of the conference would involve the entire faculty in an informational in-service workshop in which an expert would inform and orient the staff in writing program competencies, and departmental groups would write course competencies to be attained in all major and minor programs. The second week would involve the committee for curriculum coordination in review of all materials produced during the first week, suggesting core sequences and recommending implementation procedures. The third week would involve a subgroup of the committee to evaluate the conference, design a model to represent the curricular scheme developed in the conference, and devise continuing evaluation tools for future application to the teacher education program.

LATEST REPORT: The first week of the conference was an in-service instructional program for all faculty conducted by resource specialists in the competency-based process. At that time materials were developed during work periods and recommendations were made on the sequence and priority of material use which the smaller group should follow when it met during the second week. A conference report was prepared in the third week.

The conference directors believe that the time allotted to departmental introspection and interdepartmental coordination of core curriculum was extremely valuable. The results of a questionnaire completed by approximately half of the participants revealed differences of opinion concerning which form of competency-based teacher education should be adopted and the extent to which that approach should be employed. A form of competency-based education subsequently was implemented in some programs in the college. INACTIVE.

Howard Rose
Dean, College of Education
UW-La Crosse

UPDATE 6/82 AMOUNT $7,100

DESCRIPTORS
*Faculty Development; *Teacher Education
Competency Based Instruction; Academic Program
Evaluation; Faculty Development

756003 WC

TITLE: PROFESSIONAL STAFF DEVELOPMENT TO INVESTIGAGE THE TRANSPORTABILITY OF MEDIATED PROGRAM DEVELOPMENTS BETWEEN THE MEMBER INSTITUTIONS OF THE INDIANHEAD HIGHER EDUCATION MEDIA COUNCIL

The Indianhead Higher Education Media Council is composed of the higher education institutions, including the vocational, technical, and adult institutions, in the west central portion of the state. This project called for a cooperative approach for sharing the experience and expertise of each unit in the development of significant improvements of undergraduate instruction. The following criteria were to be observed: improved use of facilities, equipment and materials; and better mastery of skills by students.

After making an inventory of the materials and skills at each unit, a cooperative system for the professional development of the instructional staff would be established. Small group planning meetings were to be held to determine the in-service faculty needs, followed by professional development meetings.

LATEST REPORT: A one-day professional development conference provided an opportunity for faculty to view programs of interest from other campuses and to talk to program originators. Subsequent on-site visits were encouraged and evaluated through participants' reports. Materials from three courses were duplicated and distributed to other units.

Implementation of the project has led to the conclusions that sharing ideas is as important as sharing instructional products, smaller systems (unit and lesson level) are easier to share than highly mediated course-level projects, and learning systems that can be adapted to local needs are most easily transported. INACTIVE.

David P. Barnard
Learning Resources Division
UW-Stout

UPDATE 8/83 AMOUNT $4,000

DESCRIPTORS
*Faculty Development
Faculty Development; Audio Visual Multimedia

756004 WC

TITLE: THE DEVELOPMENT OF A COMPETENCY BASED LEARNING SYSTEM FOR INTERMEDIATE ALGEBRA AND TRIGONOMETRY

The purpose of the project was to improve efficiency and productivity of instruction in the intermediate algebra and trigonometry course. This was to be done by identification of competencies desired of students who completed the course. The project was also designed to develop instructional options for each competency area and evaluation procedures for determining the acquisition of each competency. Evaluation would be based upon the numbers of students whose needs were satisfied more efficiently than would have been possible by the traditional approach.

LATEST REPORT: Within the constraint that the course objectives had to remain within the bounds of the current catalog description, a learning system for defined competencies was developed following an analysis of the existing course syllabus and text and after gathering suggestions for a revised course. Eight modules were designated as required and all students would begin these at the same time. Two other modules were optional. For each module, appropriate sections of the current text and supplementary materials were identified. INACTIVE.

Billie Earl Sparks
Mathematics
UW-Eau Claire

Lawrence Wahlstrom
Committee on the Improvement of Instruction
UW-Eau Claire

UPDATE 5/82

AMOUNT $7,268

DESCRIPTORS
*Mathematics
Competency Based Instruction; Modular Instruction

# GRANTS AWARDED

## 1976 - 77

767001 A

TITLE: DEVELOPMENT AND STATEWIDE DISSEMINATION OF A SKILLS COMPETENCY PROGRAM IN SCORING DEVIANT ARTICULATION

Students in communicative disorders need systematic training in how to judge representative samples of deviant speech. This project was undertaken to create an audiotape/workbook sequence which would give students extensive graded practice in scoring deviant articulation.

The Project Director planned to cull 300 clinical research tapes for samples and make additional tapes as needed; prepare a workbook to accompany the field test package of cassette tapes; make still x-rays which illustrate tongue positions associated with deviant sounds; edit audio materials; and construct three sets of field test materials and test them. Student error rates on performance tests and scores on a criterion measure were to provide general data on effectiveness. The Project Assistant was to report on problems which students encountered, and instructors field testing the materials were to make critiques.

LATEST REPORT: Versions of the skills competency program were tried as planned, notably at UW-Stevens Point. Students did not have the necessary background in clinical transcription (perceptual phonetics) to learn from the tapes; consequently, a more comprehensive program needed to be developed. Textbook audiotapes are now used in communicative disorders courses in the state, country, and several other English speaking countries. The training series is also used for training transcribers in research in childrens' speech disorders. Students' performance level has significantly increased, compared to previous skills without these materials.

The results of the project led to publication of Shriberg, L.D. and Kent, R.D., Clinical Phonetics (New York: John Wiley and Sons, 1982), which is used for CD 200, Introduction to Phonetics; CD 315, Speech Pathology I; and CD 819, Problems in Deviant Articulation. The Project Director has also written to communicative disorders programs in the state about the outcomes of the project. Book and tapes continue to be used here, nationally, and internationally. The system is soon to appear in the context of a computer software program for speech analysis.

Lawrence D. Shriberg
Communicative Disorders
UW-Madison

UPDATE 8/85 AMOUNT $10,790

DESCRIPTORS
*Communicative Disorders
Clinical Training; Workbooks; Audio Tape Recording

767002 A

TITLE: "INTRODUCTION TO OCEAN SCIENCES"

Geology 150, "Introduction to Ocean Sciences," is a large enrollment course. The purpose of the project was to substitute for one lecture a week a group of small discussion panels which would study relationships between ocean sciences and pertinent topics in related sciences and social sciences, focusing on the development and use of ocean resources.

Anticipated project activities included complete revision of the 30 course lectures; development of introductory, background, resource and audio-visual materials for 15 discussion panel/seminars on such topics as energy from the sea; ocean floor tectonics; mineral and fuel resources of the sea; marine aquaculture; laws and politics and the sea; marine archaeology; ocean management; and design of problem-solving exercises based on actual data and case studies. To support this course and related course work in geology, meteorology, limnology, and other pertinent fields, an ocean sciences resource room was to be organized, equipped with such materials as microscopes, reference and text books, slides, filmstrips, and audiotapes.

Evaluation techniques planned included course and instructor ratings; evaluation of student progress and comparison with progress of students in prior years; future course enrollments; and use made of the ocean sciences resource room.

LATEST REPORT: The restructured program was offered for the first time in Fall 1977. The course will be monitored over several semesters to determine its success, and necessary adjustments will be made.

Exclusive space for the resource room could not be located, so it had to be established in one corner of a classroom. The result was that access was restricted whenever other classes were in session, and therefore, use of the collection fell far short of what was anticipated.

The slides are now available in the department and the other materials have been donated to the campus library.

Norman P. Lasca
Geological Sciences
UW-Milwaukee

UPDATE 8/78 AMOUNT $6,773

DESCRIPTORS
*Ocean Sciences
Centers; Seminars

767003 A

TITLE: AN INTERDISCIPLINARY TECHNOLOGY AND CULTURE PROGRAM

To study technology and its effect on culture, it is necessary to understand the values of our society. The humanities study values while the sciences and social sciences endeavor to apply value-free methodologies. It is necessary to integrate these disciplinary areas to explore possible future technological and social change.

Faculty from several disciplines at UWC-Fox Valley planned a two-year technology and culture program to consist of eight three-credit courses. Because of limits on faculty size, the courses would not be team taught. Rather, faculty would consult with one another while preparing their courses and offer guest lectures in other courses in the program. Students would be introduced to the program as a unit. Specific new courses to be created as a part of the grant included "Technology, Utopian Literature and Science Fiction," developed by an English professor; "Bioethics and the Future of Man," developed by a biologist; "Technology and Culture," developed by an anthropologist; and "Man and Machines in American Technology," developed by a historian.

Students would evaluate each course at its beginning and end, and faculty would evaluate the program. Additional evaluations were to be sought from students the first and second years after they had completed the program.

LATEST REPORT: Four new courses planned under the grant were offered during 1976-77. "Technology, Utopian Literature and Science Fiction" received notice in the local press and high ratings from students. The "Bioethics and the Future of Man" course seemed particularly successful in leading students to become familiar with biological knowledge and techniques which have important implications for the future, to consider the ethical implications of the knowledge and techniques, and to consider alternative reactions which society might have.

A brochure describing the nine program courses is available. INACTIVE.

Patricia Warrick
English
UWC Fox Valley

UPDATE 8/85 AMOUNT $8,420

DESCRIPTORS
*Future Studies
Course Development

767004 A

TITLE: DEVELOPMENT OF AN INTERDISCIPLINARY COURSE IN CONSUMER ECONOMICS

The need for quality consumer education is a state and national priority, and a state mandate to the public schools. The purpose of the project was to review and select curricular materials in the field of consumer education, and plan and offer a course team-taught by faculty from home economics and economics.

LATEST REPORT: Instructors prepared a new interdisciplinary, interdepartmental course, "Consumer Economics" (Economics 372 and Home Economics 372). They reviewed a variety of educational materials, participated in special ETN sessions and interviews, and obtained free and low cost publications from government and business sources to be used as supplements to the required textbook and readings. The course was offered experimentally in Spring 1977 and permanently thereafter. The Learning Resources Center Instructional Development Team aided in the location and preparation of audiovisual and videotaped materials for use in the course.

The course was offered in two sections with two coordinated syllabi which reflected the differences in teaching approaches and curricula between economics and home economics education. There were 13 separate section meetings and 15 joint meetings. The instructors incorporated several methods, including guest speakers; use of transparencies, films, video, and audiotapes; role playing; and joint lectures.

Selection of a student reactor in each section made continuous evaluation possible. In addition, instructors administered a pre-course test and end-of-course student evaluation. The results indicated a student preference for the team teaching approach and improved performance on examinations. Suggestions included shorter class periods, more time for certain subjects such as housing and taxation, and better ways to encourage student use of supplementary resource material. INACTIVE.

| | |
|---|---|
| Clifford C. Jacobsen | Anita O. Barsness |
| Economics and Business | Home Economics |
| UW-Stevens Point | UW-Stevens Point |

UPDATE 8/85 AMOUNT $7,565

DESCRIPTORS
*Interdisciplinary; *Home Economics; *Economics
Course Development; Team Teaching; Audio Visual
Multimedia

767005 A

TITLE: SUMMER LABORATORY SHORT COURSE AND ECOLOGY LABORATORY

The project centered on the development of an environmental assessment short course offered during the Summer 1976 and an improvement of the ecology laboratory course offered during the academic year. These additional laboratory experiences were initiated to improve the level of biology instruction at UW-Superior. The presence of the Center for Lake Superior Environmental Studies and special features of northwestern Wisconsin offer unique resources to support an integrated approach to ecology and environmental sciences through problem solving exercises.

LATEST REPORT: The summer short course provided student experiences in experimental design, data collection, and data interpretation. The students were asked to compare and choose critically the most efficient techniques to acquire ecological information and assess a given potential environmental perturbation. This was accomplished in the preparation of detailed study proposals designed to acquire data for an environmental assessment of a proposed dredging operation. Course and student evaluations attest to the value of this problem solving approach. The summer short course is no longer active.

Improvements in the general ecology laboratory program including added field trips and indoor activities led to a jointly produced student paper, "A Comparative Study of Various Representative Ecosystems in the Duluth-Superior Harbor Area" (copies are available).

Donald W. Davidson
Biology
UW-Superior

UPDATE 8/83 AMOUNT $5,500

DESCRIPTORS
*Biology; *Environmental Studies
Laboratory Sciences; Course Development

767006 A

TITLE: INTEGRATED LIBERAL STUDIES PROGRAM

Several faculty members proposed an integrated liberal studies (ILS) program to meet student needs by offering an alternative educational style, pace and technique. Approximately 120 freshmen seeking individualized, self-paced, and small group learning--problem-oriented and interdisciplinary in design--joined nine faculty (6 FTE) from six disciplines for a year of general studies.

The school year was divided into four projects: human nature and the human environment, community, the relationships of people and technology, and the future. The method of teaching-learning was guided design.

LATEST REPORT: The faculty involved believe the effects of the ILS program have been very positive. For the students, there has been major improvement in writing ability; a broadening of world view, particularly in approaching problems holistically; improvement in decision making and organizational skills; major advances in the ability to function well in a group, especially in working to solve problems; the development of a sense of belonging to an academic community; and a major increase in self-confidence.

The faculty finds working in the ILS program to be exciting, fun, and intellectually stimulating. The program allows faculty to examine the whole process of learning, problem solving, and value clarification from an interdisciplinary perspective--a chance to step back from subject matter alone and to investigate processes and relationships. The faculty enjoy getting to know students on a personal level and working with small groups in class. The greatest frustration has been lack of time.

Individual interviews with a sample of students revealed that they thoroughly enjoyed the teaching methods used. Half of the students lived in the ILS quarters in Wells Hall. It seemed that they developed friendships faster and in greater depth than usually is the case for new freshmen.

Luther R. Stonecipher
Integrated Liberal Studies
UW-Whitewater

UPDATE 8/78 AMOUNT $28,178

DESCRIPTORS
*Integrated Liberal Studies; *Future Studies
Guided Design; Course Development; Seminars

767007 A

# TITLE: SUBJECT MATTER DIVERSIFICATION THROUGH MODULAR INSTRUCTION (ORGANIC CHEMISTRY)

Organic chemistry, a highly structured upper level course, contains a large student population with widely differing career objectives. The major goal of this proposal was to develop a method to provide individual students a choice of subject matter to study, after a certain core of foundation topics had been studied, and to provide a self-pacing format.

LATEST REPORT: Six audio-tutorial minicourses, each consisting of a cassette tape and a study guide, were developed. The six topics covered were amino acids/proteins, polynuclear aromatics, rearrangements, carbohydrates-monosaccharides, heterocyclic compounds, and polymers.

The minicourses were used in the Spring 1977 and Spring 1978 organic chemistry lecture course. Each student contracted to complete four of the six. Lectures were discontinued the last four weeks of the semester; instead, quiz sessions were scheduled, and the instructor and a trained undergraduate assistant were available for tutorial assistance.

Student reaction was quite favorable. Students liked the self-paced aspects of the format, enjoyed experiencing a different way to learn, and liked having a choice of subject matter and the convenience of selecting their own study time. A noteworthy finding was that procrastination, often cited as a problem in individualized self-paced instruction, was not a significant factor. Only 5% of the students failed to meet the requirement of four minicourses.

The minicourses are currently in use in the second semester organic chemistry courses and two of the minicourses, amino acid/proteins and carbohydrates are used for review purposes in biochemistry. Additionally, the polymer unit is required in the industrial chemistry course.

Copies of the minicourses are available upon request with the stipulation that a written critique of the materials be submitted to the author.

Joel R. Klink
Chemistry
UW-Eau Claire

UPDATE 8/85

DESCRIPTORS
*Chemistry
Minicourse; Audio Tape Recording

767008 A

# TITLE: DESIGN FOR A WRITING SKILLS LABORATORY

The purpose of the project was to develop instructional materials for an expository writing course and coordinated writing laboratory. Working from oral to written expression would be emphasized. Through the use of easels and big tablets of newsprint, the instructor would be able to observe and intervene in the process of composition. The laboratory would also serve as a practicum for students interested in teaching communication skills.

LATEST REPORT: Given the assumption that students could best learn organization and logic through the imitation of models, the Project Director developed a series of models to support the exercises in a variety of types of writing: claim-support-conclusion and comparative/contrastive paragraphs and essays; research papers; and professional exposition as in business communications and scientific reporting.

Changes in course offerings in other areas of the university's academic program resulted in a lower enrollment than expected, which in turn led to a reduction in space assignment, reduction of the number of course sequences from four to two, and expenditure of about half the grant. The results were compared with data from a pilot program which was similar but did not involve a laboratory. Most students in this project reached the same level of achievement in less time than those in the more conventional pilot, at least so far as organization, logic, documentation of evidence and other conventions of composition are concerned. The research paper and professional exposition assignments, which were modules for additional credit in the original design, were not as successful because too few students made decisions to participate in time to meet the two-week advanced registration deadline. In Fall 1978 all of these components became obligatory in a three-credit course.

More detailed information is contained in an article in Wisconsin English Journal, XXI:2 (January 1979).

Donald W. Larmouth
Communication-Action
UW-Green Bay

UPDATE 1/81 AMOUNT $17,082

DESCRIPTORS
*Basic Skills English Composition
Laboratory Basic Skills; Models

767009 A

TITLE: EARTH-SUN RELATIONS: CAI PROGRAMS FOR EARTH SCIENCE

In many introductory Earth Science courses, such as "Maps and Landforms" at UW-La Crosse, students find elementary material difficult. This project uses computer-assisted instruction (CAI) for selected basic concepts, in order to stimulate student interest and facilitate learning.

LATEST REPORT: An annotated bibliography of selected concepts of earth-sun relationships was prepared for developing the CAI materials. Five programs were written on the topics of shape, size, rotation, revolution, and inclination. The CAI system used was the Instructional Dialogue Facility (IDF) for the Hewlett Packard 2000C computer.

At the first class meeting students were given a pre-test, the CAI materials were explained, and students were urged to use the appropriate programs on a voluntary basis. Progress of the class was monitored. About 25% of the students used the computer programs less than expected. Lack of student time was the most frequent reason given; confusion and difficulty in using the computer were also cited. Nevertheless, those who used the programs had a mean increase of 10.9 points from their pre-test, while those who did not use the programs had a 7.8 point increase.

In 1977-78 Teaching Information Processing Systems (TIPS) was added. Thus students took the TIPS quizzes and were directed to appropriate IDF tutorial programs for remedial work. In addition, students were instructed in the use of the computer terminal in the geography building rather than the computer center. This seemed less overwhelming to some of them.

The blend with TIPS and the lab-based terminal have heightened student interest and increased use. A companion manual for using the software package will be written and the results of the project will be submitted for publication.

A selected annotated bibliography of earth-sun relations materials, a diagnostic test, and a basic software package are now available for distribution. (Project Director is considering adapting materials for microcomputer use.) INACTIVE.

John N. Hoefer
Geography and Earth Sciences
UW-La Crosse

UPDATE 8/85 AMOUNT $2,162

DESCRIPTORS
*Geology
Computer Autotutorial; Computer Managed Instruction

767010 A

TITLE: ESTABLISHMENT OF A COOPERATIVE ACADEMIC PLACEMENT PROGRAM

The need to provide selected high school students with advanced courses not available at their schools led to the development of a cooperative program with several area schools in which students were allowed to enroll in college-level courses at the university as part of their high school programs. The objective of this project was to adapt the program in order that the courses could be given at the high schools as well as the university. Project activities consisted of designing courses in self-paced one-credit modules jointly with high school teachers and preparing the teachers to serve as part-time university faculty members to supervise course operations at the high schools. The university departments were to retain control of course content, standards and staff selection.

LATEST REPORT: Although a comprehensive evaluation of the program has not yet been conducted, early evidence of student interest and student performance suggests that the program has been a success. During Spring 1978 approximately 100 students were enrolled at two participating high schools and several others were taking courses on campus. Second, the course completion rate has been over 90% and the levels of performance have been high.

The major recommended change is that the course development procedure should identify in advance the specific curricular needs of a school rather than simply adapt existing university courses and then offer them to high schools.

By 1985, twenty-three high schools were participating. Approximately 750 students took more than 900 courses during 1984-85, and performance levels continue to be high.

E. J. Hutchinson
Cooperative Academic Placement Program
UW-Oshkosh

UPDATE 8/85 AMOUNT $25,701

DESCRIPTORS
*Articulation High School to College
Modular Instruction

767011 A

## TITLE: DEVELOPMENT OF BLACK DIALECT INSTRUCTIONAL MATERIALS

For many years it was assumed that Black English spoken by children was an indication of faulty or erroneous speech patterns. Educators now recognize that this dialect pattern represents a highly organized and consistent language system and often contributes in important ways to the cultural heritage. If teachers are to be language competent, they must have the competence to comprehend the linguistic pattern in some detail.

In 1971 Bonner and Krantz conducted a study at UW-Milwaukee in which 50 teachers and teacher aides were extensively interviewed with respect to their knowledge of language development and dialect differences. The general finding was that regardless of age, race, experience, and education, none of the teachers interviewed had an adequate understanding of the basic language patterns of school children. The major purpose of this project was to illustrate the predominant syntactical and phonological variables which distinguish Black English from standard English in the Racine community. The project focused on the linguistic performance of black children in responding to authority figures. The specific information gathered was to become an integral part of eight courses in the division of education.

The 360 subjects, including black and white lower and middle class children, were to be tested to collect syntactical and phonological data. A videotape module would illustrate the distinctive features of Black English as spoken by three age groups of black children in Racine.

LATEST REPORT: Because a teachers' strike in Racine restricted activities in the schools, the completion of the field data collection and evaluation was delayed, but extended into the 1977-78 fiscal year.

The Project Directors have completed a quantitative examination of language differences and similarities between black and white children in the Racine area. A set of rules that will allow them to examine qualitatively the speech samples that they have from these children is being developed.

| | |
|---|---|
| Leo Bonner<br>Education<br>UW-Parkside | Diane German, Director<br>Learning Disabilities<br>UW-Parkside |
| UPDATE 8/78 | AMOUNT $17,684 |

DESCRIPTORS
*Teacher Education; *English; *Learning Disabilities
Modular Instruction; Audio Visual TV Taped

767012 A

# TITLE: THE WRITING LABORATORY AS A PRACTICUM

University facilities for remedial work with students who have inadequate writing skills have been generally unpopular, thinly staffed, and expensive. However, only in remedial sections or writing laboratories are students who need help with writing given an opportunity to learn at their own pace. This project was to provide individual help to remedial students by using students with English majors and minors in teaching as laboratory tutors while themselves enrolled in the required course, "Theories of Composition." This plan has two benefits: 1) the writing laboratory is more fully staffed and less expensive per student; and 2) the student teacher gains valuable experience in the teaching of writing.

LATEST REPORT: Six senior English students were selected to work as tutors. Each worked 8 to 15 hours per week. Tutors found their work useful and interesting. Students attending the lab found it helpful in writing freshman English papers, proofreading, and discussing ideas for papers. Instructors thought that students attending the composition laboratory showed improvement. Fewer spelling errors, fewer sentence fragments, and better organized themes were mentioned. In 1982-83, eight senior English majors worked in the laboratory.

Use of the laboratory has increased with required attendance from remedial developmental sections of freshman English and continued publicity. In 1982-83, over 200 per quarter made over 6000 visits to the laboratory. The Iowa silent reading test is given to remedial-developmental students to persuade them to register for the reading improvement program. Allied with the laboratory is a one-hour, non-credit vocabulary class, taught by a retired volunteer, attended by students for whom English is a second language and remedial-developmental students. The hiring of a laboratory director several years ago increased use and efficiency of the laboratory. It is now considered a permanent campus resource.

| | |
|---|---|
| Robert Beck<br>English<br>UW-River Falls | Susan Steiner<br>English<br>UW-River Falls |
| UPDATE 8/83 | AMOUNT $4,950 |

DESCRIPTORS
*Basic Skills English Composition; *Teacher Education
Laboratory Basic Skills; Peer Teaching; Practica

767013 A

TITLE: CARNIVAL: A CELEBRATION OF THE HUMAN COMMUNITY

The School of Fine Arts has for many years dedicated itself to the development of interdisciplinary forms of learning through interrelated arts experiences. This proposal represented the first time that faculty and students of the five departments were to combine their resources in the pursuit of a common artistic exploration with specific objectives.

By creating a cluster of courses around a central core--a core called "Carnival as a Human Event"--project faculty hoped to study and eventually create a new multidisciplinary artwork. The form of carnicus, a word made up of carnival and circus, was to be a day's activities, first in the student union at UW-Milwaukee and then in a large public space in the City of Milwaukee. In sum, the purpose of the project was the creation of a giant artwork--an event composed of eight theater troupes, three dance companies, a group of twelve composer musicians, two video units, sixty costumed figures, and fifty assorted clowns, fools, and jugglers.

LATEST REPORT: With this plan in mind, the project faculty brought together eleven courses including a core course, "Carnival as a Human Event;" musical composition; mask making; carnival marketing; body covering; dance; and acting.

The initial performance in the UW-Milwaukee student union went marvelously well. There were three thousand or so people during most of the day, and for almost all, the day was exceptionally exciting. Due to technical, tactical difficulties and the caprice of the weather, the outdoor events were less successful.

There were some notable successes. The soundscaping class provided the musical score for the afternoon; they, the core course, and the members of the carnicus dance class came close to reaching the ideal of interactive and interdisciplinary work envisioned for the project. Project faculty learned essential lessons in the organizational and conceptual problems associated with interdisciplinary work that attempts to bring the arts and life together. INACTIVE.

Richard Blau
Film
UW-Milwaukee

UPDATE 8/78 AMOUNT $9,550

DESCRIPTORS
*Interdisciplinary; *Arts; *Music; *Theatre
Course Development; Performances

767014 B

TITLE: COOPERATIVE UNDERGRADUATE PROGRAM DEVELOPMENT IN ARCHITECTURE AND URBAN PLANNING AMONG URBAN CONSORTIUM SCHOOLS

While the professional program in architecture is unique to UW-Milwaukee, the original charge to the school of architecture and urban planning included identification of several other institutions in the UW System for development of pre-architecture programs. These would be coordinated with admission to the professional program at the junior level. UW-Green Bay and UW-Oshkosh were designated as appropriate campuses for development of pre-architecture programs. The objectives of this proposal were to enrich undergraduate course offerings in architecture and urban planning and identify joint interests and possible joint program development in these areas. Offering a videotaped "Introduction to Architecture" course was considered a viable first step toward achieving that goal.

Both UW-Green Bay and UW-Oshkosh used the videotapes for "Introduction to Architecture" at least one semester. Videotaped instruction as the only initial contact in architecture is not effective for students who expect to see and hear real professors when they take a preprofessional offering. However, the program has increased the interaction among the faculties of UW-Milwaukee, UW-Green Bay, and UW-Oshkosh. Additional techniques must be developed to create a mini-feeder system to the UW-Milwaukee School of Architecture.

LATEST REPORT: The videotapes are no longer in use. Architecture 101 at UW-Milwaukee has for the last three years used teaching materials (slides) developed for the tapes. The syllabus closely resembles that of the one for Architecture 200 videotapes.

Timothy McGinty
Architecture
UW-Milwaukee

Ronald Baba
Creative Communication
UW-Green Bay

Richard Medlock
Art
UW-Oshkosh

UPDATE 8/83

AMOUNT $9,573

DESCRIPTORS
*Architecture; *Environmental Studies; *Urban Studies
Audio Visual TV Taped

767015 SC

# TITLE: A GENERAL SIMULATION OF A BASIC MATERIALS INDUSTRY

This project was to develop a simulation of a basic materials industry for classroom use by senior business students. The simulation would go well beyond those currently available by incorporating a greater variety of business activities, such as production scheduling and control, purchasing, sales management, ecological considerations, energy consumption, etc.

LATEST REPORT: The simulation consists of a computer program to handle the necessary variables and a student's manual to explain how to participate in the simulation. Work had progressed sufficiently to allow one class in the 1977 summer session to use the program successfully. By Spring 1978 the simulation constituted 40% to 50% of the course content of the business policy course. Students have been enthusiastic about this new teaching/learning aid and several volunteered to do additional work just for the experience. Faculty interest has continued throughout the development of the project, and the Computer Service Department has continued to assign a programmer to the project. Program revisions were made during 1977-78 as the simulation has undergone testing and classroom use.

Student participants are likely to appreciate classroom simulation experiences more after they enter the business scene. With this in mind, a sample of students were to be surveyed one year after they graduated to evaluate the usefulness of the simulation as a learning aid.

Professors Decker and Waedt made a presentation at the Sixth Annual Conference of the Association for Business Simulation and Experiential Learning, which was held on April 18-20, 1979, in New Orleans. An article co-authored by Decker, Waedt, Allen, and Headington was published in Insights Into Experiential Pedagogy, which contains the proceedings of this meeting. The title of the article is "Foundry: A Foundry Simulation."

Ronald Decker
Business Administration
UW-Eau Claire

Stuart J. Allen
Business Administration
UW-Eau Claire

Fred Waedt
Business Administration
UW-Eau Claire

UPDATE 8/85

AMOUNT $3,599

DESCRIPTORS
*Business
Computer Simulation

767016 WC

# TITLE: THE DEVELOPMENT AND EVALUATION OF A STRATEGY TO REDUCE THE FAILURE RATE IN LARGE UNIVERSITY COURSES INTEGRATING AUDIO-COMPUTER-TUTORIAL INSTRUCTION

The general biology course at UW-La Crosse had been taught by an audio-tutorial format. That is, students using audiotapes proceeded at their own pace to learn subject matter of the biology program in sequence. Of the 1800 students enrolled each year, approximately 25% were receiving a D or F for the semester. The objective of this project was to reduce substantially this number by adding a computer tutorial program, Teaching Improvement Process System (TIPS), to the audio-tutorial program, thus introducing the mastery concept--an effective strategy, particularly for low achievers.

Traditionally the course had been divided into 15 weekly units. This project would add a step. Each unit was further broken down into individual concepts in a design similar to a mini-course format. Check tests administered by using an adaptation of the TIPS program would determine if the student had achieved the prescribed objectives for that segment. A total of 30 BIOTIPS evaluations were to be administered during the course.

LATEST REPORT: Seventy-five students were selected for the BIOTIPS program; another group of students were identified as a control group. Only 29 of the 75 students using BIOTIPS completed at least 15 of the 30 evaluations. When the control group that was expending similar effort was compared, the BIOTIPS program proved to give students an advantage. Based on this study, the degree to which BIOTIPS did enhance achievement reached a maximum of 10% during both semesters for the participating students. Those students who were using the BIOTIPS program felt that it was valuable. A total of 66.7% of the respondents to the survey agreed or strongly agreed that the program enhanced achievement. INACTIVE.

Richard P. Nord
Biology
UW-La Crosse

UPDATE 8/83 AMOUNT $10,586

DESCRIPTORS
- *Biology
- Computer Autotutorial

767017 WC

TITLE: "PLANIT" IMPLEMENTATION AND CAI COURSEWARE FOR COMPUTER SCIENCE

A major difficulty inhibiting the development and implementation of computer assisted instruction (CAE) materials at UW-Eau Claire was the absence of an effective author language. PLANIT, an author language used effectively with Univac and IBM equipment, was made compatible for use on the UW-Eau Claire Burroughs 5500 computer.

LATEST REPORT: The PLANIT software was implemented on the B5500 computer, but because of excessive response times, it was concluded that the PLANIT software was incompatible with the equipment. In August, 1980, UW-Eau Claire obtained new computer equipment with PLANIT software. The Academic Computing Services of the campus maintained the PLANIT system, held workshops on the use of PLANIT, and guided several faculty members on the use of PLANIT. PLANIT is now available on the Honeywell DPS 8 computer, and is being used by such departments as foreign languages, library science and media education, biology, and chemistry. PLANIT has a good authoring language and effective tools for directed learning and testing; however, it is filled to capacity while being used by only ten to twelve courses, and is currently incapable of growth. At this time, additional use of CAI must be discouraged.

In addition to PLANIT, specific programs have been purchased or developed for the mainframe computer and several microcomputers. These programs are fixed in their design and content, and cannot be fine-tuned to course and curriculum changes.

The Academic Computing Services would like to make PLANIT available to more instructors on campus. Unfortunately, that does not seem possible. As an alternative, Academic Computing hopes to implement a coordinated computer assisted instruction system that will permit lessons to be developed on the mainframe computer and/or microcomputers, transferred between different computers, and run by students on either mainframe or microcomputers. This CAI system will also permit access to a shared bank of lessons developed here and elsewhere. INACTIVE.

John Beck
Academic Computing Services
UW-Eau Claire

UPDATE 8/85 AMOUNT $12,866

DESCRIPTORS
- *Computer Science
- Computer Multiple Applications

767018 WC

# TITLE: DEVELOPMENT OF A PHYSICS COURSE FOR PRE-PROFESSIONAL STUDENTS IN THE LIFE SCIENCES: AN INNOVATIVE INTERDISCIPLINARY APPROACH

Integration of biological applications of physics into an introductory level physics course can provide a meaningful experience for pre-professional students. The purpose of this project was to establish which areas of physics are the most useful to professionals in the life sciences, then to write single concept mini-lectures with appropriate biology applications and problems.

LATEST REPORT: To develop the most effective course for the largest number of science students, the Project Director interviewed professionals working in life science fields to identify physics topics they considered most useful. The applications of physics to biosystems were grouped according to primary areas of physics represented. The physics concept formed the basis for the single concept modular units. A syllabus provided an overview of the bio-general physics course.

Workers in the life science fields found heat and thermodynamics, fluids, and electricity and magnetism the most important physics topics needed in their work. Statics and dynamics, geometric and physical optics, and modern physics ranked lower but were also considered important. Overwhelmingly the life scientists urged during the interviews that the level of difficulty of the physics course should not be compromised.

A detailed syllabus for "Introductory Physics Course Designed for Life Science Students" is available. Also available is a nine-page lecture, "Aspects of Thermodynamics Which Offer a Deeper Understanding of Biosystems." At the 1977 meeting of the Wisconsin Association of Physics Teachers this work was discussed. Interest was sufficient to promote a sub-group of WAPT which will regularly address itself to the problem.

This course continues to serve students and is also offered during the summer session.

Wayne W. Sukow
Physics
UW-River Falls

UPDATE 8/85 AMOUNT $14,786

DESCRIPTORS
*Physics; *Biological Sciences
Modular Instruction

767019 WC

# TITLE: PRESCRIPTIVE DIAGNOSTIC TEACHING: AN INNOVATIVE APPLICATION OF EDUCATIONAL TECHNOLOGY TO THE INSTRUCTIONAL PROCESS

Until 1976 the course "Educational Management" used a commercially produced programmed text which provided a basis for prescriptive diagnostic teaching, but had limitations. Both the programmed text and the slide-sound presentations provided single static case studies which did not allow for realistic, fluid views of the wide range of learning-handicapped persons in functional learning situations. Student evaluations indicated dissatisfaction with the quality of this programmed material. This proposal aimed to restructure the course by developing prescriptive diagnostic teaching materials in an instructional sequence that included a videotape case study format integrated with a sound-slide sequence which would use the strengths of each presentation mode. Such a program provides a more realistic carryover for students who are being introduced to the individualized instructional process and techniques teachers use to deal with specific instructional needs of handicapped learners in the adolescent and adult population. The case studies to be produced would use a variety of individuals with learning handicaps in a variety of instructional situations.

LATEST REPORT: By the end of the project year eight videotape case studies were completed with additional scripts prepared for production. All slide-sound presentations were designed, scripted, and ready to be converted to the slide format. All existing instructional module revisions had been completed. The audio portion of the modules had been scripted and was being tested in class presentation before being taped.

The project provides a performance-based instructional format, using discrete instructional modules that provide the instructor with a well-developed instructional sequence. Preliminary discussions with students evoked many very positive statements concerning portions of the project material used. A formal evaluation was made in Spring 1978.

Carl T. Cameron
Special Education Program
UW-Stout

UPDATE 8/85 AMOUNT $14,869

DESCRIPTORS
*Learning Disabilities; *Teacher Education
Case Studies; Audio Visual Multimedia

767020 S

TITLE: AN INTER-INSTITUTIONAL AND INTERDISCIPLINARY INTRODUCTION TO LATIN AMERICAN STUDIES

Most of the universities in the UW System have offered Latin American content courses in a single discipline, primarily for upper division students. The Project Directors proposed to employ communications technology (videotape, film, audiotape, and slide) and an interdisciplinary, inter-institutional approach to develop an innovative introduction to the history, culture, and circumstance of the Latin American people.

LATEST REPORT: The course content was organized to cover five basic units: an introduction, early formative era, transitional era, modern era, and the contemporary era. The course, "Introduction to Latin America," was conducted simultaneously on three campuses--UW-Milwaukee, UW-Stevens Point, and UW-Eau Claire. All used the same textbook and evaluation forms, the same pool of videotapes and films, and each included live presentations by on-campus specialists. Overall, the students rated the course above average. The course was made a permanent part of the curriculum at UW-Stevens Point.

A bank of 30 videotapes has been established and is available. On campuses with strong Latin American studies programs, segments of the course can be used as resource materials for enrichment; on other campuses, these tapes provide a high quality basic course in Latin American studies. Contact the Center for Latin America, UW-Milwaukee, for information on borrowing or buying the videotapes. Information on the project has appeared in the Latin American Studies Association Newsletter, IX: 1 (March 1978), 14-16.

"Introduction to Latin America" continues to be offered about once every other year; while the course can sustain itself largely on video tapes (there are 30 in the collection now; new ones are being made and old ones updated and revised) the students prefer live presentations; so while the project continues and is viable as originally planned, there are limitations--too much media is not a plus.

| | |
|---|---|
| Robert Knowlton<br>History<br>UW-Stevens Point | Rodolfo Cortina<br>Spanish & Portuguese<br>UW-Milwaukee |
| Walter Wussow<br>History<br>UW-Eau Claire | |
| UPDATE 8/85 | AMOUNT $27,004 |

DESCRIPTORS

*Latin American Studies; *Interdisciplinary; *History; *Agricultural Economics; *Communication Arts; *Political Science; *Social Sciences; *Art; *Anthropology
Course Development; Audio Visual Multimedia

767021 B

## TITLE: COOPERATIVE DEVELOPMENT OF "ENVIRONMENTAL PROBLEMS AND DECISIONS"

The Urban Corridor Consortium proposed to achieve improved undergraduate instruction within the member institutions by sharing resources. This project proposed to adapt a media-supported course taught on one campus so that it could be transferred easily. The course selected was "Environmental Problems and Decisions," which had been taught successfully at UW-Oshkosh in the self-paced mode each semester since Spring 1974. "Environmental Problems and Decisions" is a three-credit course for non-majors which addresses several current and projected environmental problems facing the world community. The problems are large, complex, critical, and interdisciplinary in nature. The media supporting the course were primarily 35mm slide-audio cassette and print cassette programs.

LATEST REPORT: The project brought together four faculty in environmentally related disciplines to create materials for a self-paced course. Participating faculty agreed to follow a common format and field-tested the material. Each curricular module consisted of a group of study guides, including learning objectives, learning resource identification, and a description of the evaluation procedure and criteria.

The course materials were successfully developed and student and faculty manuals were produced. The materials have been field tested at the four Consortium campuses--UW-Parkside, UW-Oshkosh, UW-Green Bay, and UW-Milwaukee. Students were asked to rate the newly revised course at UW-Oshkosh and their reactions were very positive.

Nearly every project objective was accomplished, although the multi-campus, multi-faculty aspects of the project did present significant difficulties. On the other hand, the interaction between disciplines provided a positive environment for designing and teaching the course. INACTIVE.

James Gueths
Assistant Vice Chancellor
UW-Oshkosh

UPDATE 8/83 AMOUNT $9,030

DESCRIPTORS
*Interdisciplinary; *Social Sciences; *Biology;
*Geography; *Architecture; *Environmental Studies
Audio Visual Multimedia

# GRANTS AWARDED

## 1977 - 78

778001 A

TITLE: CHEMISTRY, CLAY, AND POTTERY STUDENTS

Most pottery students have little or no background in chemistry. The Project Directors planned a ten-unit study program to introduce students to ceramic materials and procedures. The study materials, consisting of slides, audiotapes, and written text, were to be installed in carrels for individual use, and covered the following units: 1) the elements and their properties; 2) the structure of the atom; 3) chemical bonding, compounds, and formulae; 4) nomenclature of inorganic compounds; 5) crystallinity; 6) chemical reactions; 7) oxidation and reduction; 8) pigments and color; 9) toxicity and safety precautions; 10) weight relations and glaze calculations.

LATEST REPORT: The materials were prepared during Summer 1977 and introduced during the 1977-78 academic year to all students in the pottery program. In addition to providing the ten units of tapes, slides and text, the Project Directors installed periodic tables and crystalline lattice models in the pottery studio to increase chemical awareness. Two chemistry lecture-demonstrations were also presented each semester, and tutorials were offered for students needing additional help.

Student evaluations indicated that the advanced pottery students were more receptive to the program than introductory students. Contrary to the Project Directors' original expectations, students generally found the absence of course credit for their participation in the program a negative influence on motivation. As a result of these responses, the chemistry program is now being offered for one course credit in conjunction with an advanced pottery course, Art 458, in which students can enroll for one to six credit hours. In conjunction with other courses, the program is available to beginning students at their option and will count as extra credit in the beginning curriculum. The course materials are available to pottery instructors for a modest cost and have been purchased by Eastern Michigan University.

The project is described in "Chemistry for Potters," J. of Chemical Education, 57 (April 1980), 272-275.

Allen A. Denio
Chemistry
UW-Eau Claire

Richard W. Joslin
Art
UW-Eau Claire

UPDATE 8/83

AMOUNT $8,485

DESCRIPTORS
*Interdisciplinary; *Chemistry; *Art
Course Development; Audio Visual Multimedia

778002 A

TITLE: MILWAUKEE AS A LABORATORY FOR INSTRUCTION IN URBAN AND REGIONAL THEORY: TOURS ON VIDEOTAPE

To increase the students' perceptions of issues by relating actual urban experiences to material developed in structured courses, the project proposed to develop videotapes combining films on location with maps and other graphics. The purpose was to integrate information previously presented in the classroom and on "live" tours.

Four videotapes were to be prepared, each 50-60 minutes in length, including on-site films of the developed and developing commercial, residential, and industrial areas: a recorded commentary; census data; maps; and other information. These were to be supported by handouts for students and materials to aid teaching assistants.

The tapes would be adaptable to related fields such as architecture, geography, and economics, and although specific to Milwaukee, the Project Director felt that they will be useful elsewhere.

LATEST REPORT: A technical problem with outdoor filming has delayed that portion of the project; however, it is expected that the tapes will be introduced in Fall 1978. Approximately one year after that, a census of users will be taken to evaluate the success of the project.

W. Paul Farmer
Architecture and Urban Planning
UW-Milwaukee

UPDATE 8/78 AMOUNT $10,722

DESCRIPTORS
*Urban Studies; *Social Sciences
Audio Visual TV Taped

778003 A

# TITLE: ORGANIC CHEMISTRY LABORATORY FOR HEALTH SCIENCE MAJORS

The purpose of this proposal was to design a laboratory course to accompany the survey course in organic chemistry required of students in medical technology, zoology, and botany. The laboratory exercises were to involve the usual organic reactions but would be done on molecules of biological significance. For example, the saponification of a blood triglyceride will demonstrate ester hydrolysis, the esterification of cholesterol would replace the typical esterification to form n-amyl acetate, and there would be experiments in instrumental techniques such as mass spectroscopy and gas chromatography. It was not expected that this type of laboratory would make chemists of the students but that it would present enough facts to enable them to make sensible judgments concerning chemistry throughout their careers.

LATEST REPORT: Development and testing are time consuming. Six experiments have been prepared and two have passed the testing stage. The course probably will not be introduced until Fall 1979.

Student evaluations and examinations from the previous laboratory course are on hand and will be used as a basis for assessing student response and performance in the new course.

James M. Cook
Chemistry
UW-Milwaukee

UPDATE 8/78 AMOUNT $7,288

DESCRIPTORS
*Chemistry; *Health Sciences
Laboratory Sciences

778004 A

TITLE: USING SHORT WAVE RADIO RECEPTION OF FRENCH LANGUAGE BROADCASTS IN UNDERGRADUATE CONVERSATION AND CULTURE COURSES

In order to give students direct contact with French language and culture in their native form, this project proposed to develop a series of tapes based on short-wave radio broadcasts from Europe and Canada. Using equipment available through the UW-Milwaukee Language Laboratory, the Project Director planned to monitor French language broadcasts, record and edit a variety of programs (news, cultural events, political affairs, etc.) and provide transcriptions of the edited tapes. These materials would be made available for conversation, culture, and phonetics courses, for individual practice in the language laboratory, and for the department's weekly French language radio broadcasts. Faculty and student evaluation of the materials would be sought, and a series of three tests would be administered during the semester to chart students' progress in oral comprehension, conversation, and writing skills.

LATEST REPORT: Seventy-five short tapes were successfully created and introduced into the undergraduate French curriculum with satisfactory results. Despite some difficulty in receiving European broadcasts, the project demonstrated the adequacy of the language laboratory's technical equipment for producing tapes of sufficient quality for instructional use. The project is therefore a feasible undertaking for other language departments. The tapes now used by the French department at UW-Milwaukee may be reproduced for use by other universities as well as by high schools and groups. A catalogue describing all 75 tapes is available from the Project Director. A new short wave receiver will make future recordings easier.

Anthony A. Ciccone
French and Italian
UW-Milwaukee

UPDATE 8/83 AMOUNT $3,207

DESCRIPTORS
*French
Audio Tape Recording

778005 A

TITLE: CREATION AND USE OF VIDEOTAPES OF APHASIA IN TEACHING THE "APHASIA IN ADULTS" COURSE

Special qualifications are required of speech-language pathologists who work with post-stroke individuals suffering from aphasia (language impairment due to brain damage). This project was designed to afford students a fuller understanding of the problems they will encounter when assisting victims of stroke, and to introduce the techniques they will use in their required practica. Videotapes of patients with various types and degrees of aphasia and related language disorders would be recorded at a local hospital. Along with videotapes of campus group therapy sessions for aphasics, these tapes would be incorporated in a course that is a prerequisite for clinical instruction.

LATEST REPORT: The Project Director successfully made a number of tapes demonstrating different types and degrees of aphasia. Tapes were edited by the Project Director and redubbed to cassettes; a few more tapes of unusual cases remain to be made. Students who have used the videotapes thus far have found the tapes very helpful and informative; no negative student responses were received.

A few tapes are kept in the Speech Pathology Department; the others are on file in the educational media area of the UWM Library and may be withdrawn for viewing. The tapes are also available for reproduction or loan to other universities.

Ralph R. Leutenegger
Speech Pathology and Audiology
UW-Milwaukee

UPDATE 8/79 AMOUNT $6,877

DESCRIPTORS
*Communicative Disorders
Clinical Training; Audio Visual TV Taped

778006 A

TITLE: "INTRODUCTION TO SOCIAL SCIENCES" COURSE

An interdisciplinary team of UW-Oshkosh faculty proposed to design a course introducing students to the social sciences, examining individual social science disciplines and their interrelationships. The course would provide an overview of the body of knowledge that constitutes the social sciences, describe the assumptions and methods of several disciplines (anthropology. economics, geography, history, political science, psychology, and sociology) as means of explaining social phenomena, and examine the common foundations of the social sciences. The major concepts of each discipline would be applied to four specific issues: industrialization, unemployment, conflict, and the energy crisis. The impact of the course would be assessed through pre- and posttesting of students in the interdisciplinary course and comparison with students enrolled in single-discipline introductory courses. Faculty and student evaluations of the new course would also be sought.

LATEST REPORT: The course, "Our Changing Society," was offered in Fall 1978. Students responded very positively to the course; for many it was important in helping them choose a discipline in which to specialize. The development of an interdisciplinary faculty was an especially valuable benefit of the team approach to planning and teaching the course; the Project Directors now believe that all of them have become sufficiently interdisciplinary to teach the entire course alone or with one other person.

The Project Directors recommend that interdisciplinary course development best be approached by giving one or two persons primary responsibility for the project, with other faculty serving in a collaborative or consulting capacity. They also discovered that interdisciplinary courses need particularly wide publicity in order to reach students' attention. The Project Directors are considering an adaptation of the course for secondary education students with specialization in the social sciences. INACTIVE.

Stephen Hintz
Public Service Administration
UW-Oshkosh

UPDATE 6/82 AMOUNT $13,714

DESCRIPTORS
*Anthropology; *Economics; *Geography; *History; *Interdisciplinary;
*Political Science; *Psychology; *Social Sciences
Case Studies; Course Development; Team Teaching

778007 A

TITLE: ADVANCED COMPOSITION FOR PROSPECTIVE HIGH SCHOOL ENGLISH TEACHERS AND UNIVERSITY WRITING LABORATORY

This project had two related goals: to modify an existing advanced composition course to serve the specific needs of secondary education students majoring in English; and to develop a writing clinic for the university at large. The modified composition course would provide skills and understanding for teaching high school English; students enrolled in the course would gain practical experience by serving as tutors in the writing laboratory. The instructor of the composition course would supervise the writing clinic; students could either be referred to the clinic by other instructors or seek assistance on their own.

LATEST REPORT: The special composition course and the writing clinic were both established in Fall 1977. During its first semester of operation, the clinic served 60 students and provided over 300 hours of tutoring. Both the tutors and their pupils found the laboratory to be very helpful. Students in the advanced composition course gained practical skills and insights into the teaching of writing. A major problem the Project Director encountered was insufficient preparation on the part of the advanced composition students, about half of whom needed remedial work themselves. Another was the reluctance of eligible students to enroll in the course, which resulted in a shortage of tutors.

The work of the writing clinic is now handled by the director, a graduate assistant, and tutors borrowed from the remedial tutoring program, many of whom have been prepared by the advanced composition course involved in the project. Students in the composition course do not work in the clinic any more, at least not while still enrolled in the course. The assistance offered by the clinic has improved as a result of this change.

The Project Director has prepared a series of exercises in criticism that are graduated in difficulty and subjectivity. These are available for use by other faculty conducting courses aimed at developing the critical skills of prospective high school English teachers.

Douglas Kilday
English
UW-Oshkosh

UPDATE 8/83 AMOUNT $8,300

DESCRIPTORS
*Basic Skills English Composition; *Teacher Education
Laboratory Basic Skills; Peer Teaching; Practica; Course Development

778008 A

TITLE: PROBLEM-SOLVING STRATEGIES WITH COMPUTER-ASSISTED EXERCISES

A pilot course on problem-solving strategies for science majors was to be expanded and improved through the development of computer-assisted exercises. A set of basic programs would be created through which to present exercises for the practice of five skills taught in lecture: inference, contradiction, guided trial and error, working backward, and subgoals. Each lesson would give students corrective feedback at every step in the solution. The Watson-Glaser Critical Thinking Appraisal, an independent test of general thinking skills, would be administered to measure the impact of the course.

LATEST REPORT: The programs developed to reinforce the five problem-solving strategies were written in HP-BASIC, require no programming knowledge to complete, and are available to interested faculty. The Project Directors have written a five-part series in Creative Computing Magazine (1977) that provides a detailed description of each program. The development of additional teaching materials is under way.

While the course achieved its goals, testing of student performance was inconclusive, probably due to the generally high problem-solving abilities of science majors. The Project Directors did decide, however, that the lessons they developed are more appropriate for a course on computer problem-solving that has been established in the Mathematics Department, and they plan to integrate the computer-programmed exercises into that course. INACTIVE.

Donald Piele
Mathematics
UW-Parkside

UPDATE 8/83 AMOUNT $9,154

DESCRIPTORS
*Basic Skills Problem Solving
Computer Autotutorial; Course Development

778009 A

TITLE: EXTENSION OF BIBLIOGRAPHIC RESEARCH MODULE DEVELOPED FOR HISTORY TO THE DISCIPLINES OF POLITICAL SCIENCE AND SOCIOLOGY

The project was to provide an introduction to the broad range of library resources relevant to the fields of history, political science, and sociology, and to teach proficiency in their use. A workbook was to be compiled to present the types of sources useful to undergraduates.

LATEST REPORT: The workbook of library research skills for history majors and a similar manual for political science students were commercially published in 1978. The political science workbook was published in revised form in 1983. The workbook on sociology was published in 1980. A workshop on how to use the subject workbooks was given in May, 1978 at Eastern Michigan University during the National Conference on Library Instruction. Also, papers were given in May, 1979 for over 100 New York City University librarians and on September 6, 1979 at the first Anglo-American Conference on Library Instruction hosted by the British Library Research and Development Department at Trinity College, Cambridge, England. An article about the project was recently published: Stoffle, Carla J., Pryor, Judith, and Berge, Patricia A., "A Workbook Approach to Teaching Library Research Skills," Urban Academic Librarian, 1 (Spring 1981), 19-24.

The Project Directors in cooperation with UW-Extension conducted a one-day workshop for the presentation of these workbooks to librarians and faculty at other institutions. UW-Parkside received a grant from the National Endowment for the Humanities to continue the development of bibliographic materials. There are three more workbooks currently being used on our campus in the areas of business, communication, and geography. The business workbook was published in 1981 and the communications and geography workbooks will be published in 1983. All commercially published workbooks can be purchased from Neal-Schuman Publishers, New York.

Judith Pryor
Library/Learning Center
UW-Parkside

UPDATE 8/83 AMOUNT $8,485

DESCRIPTORS
*Library Resources; *History; *Political Science; *Sociology
Library Skills; Workbooks

778010 A

TITLE: A MNEMONIC GUIDEBOOK FOR THE STUDENTS OF CALCULUS LEVEL PHYSICS

To help students overcome the difficulties of understanding and remembering new concepts presented in the language of an unfamiliar discipline, this project planned to use a mnemonic approach to teaching calculus-level physics. A guidebook would be developed that provided tools for memorizing important formulae and understanding basic concepts. The guidebook would be evaluated by controlled use in one section of a three section physics course giving a common final exam.

LATEST REPORT: The guidebook was made available to students in Fall 1977. The results of the final exam showed no significant difference between those who used the mnemonic guidebook and those who did not. There was some difficulty in motivating students to read and use the guidebook. The author has decided that because physics is not basically a matter of memorization, it is best not to overstress the guidebook, but rather to offer it as a supplement for motivated students.

Copies of the guidebook have been distributed to each physics department in the UW System; additional copies may be obtained from the Project Director.

Lutz Kurzweg
Physics
UW-Platteville

UPDATE 8/79 AMOUNT $4,304

DESCRIPTORS
*Physics; *Mathematics
Workbooks

778011 A

TITLE: A SERIES OF INTEGRATED LABORATORY EXPERIENCES INTERFACING NUCLEAR CHEMISTRY WITH AGRICULTURAL, BIOMEDICAL, AND ENVIRONMENTAL SCIENCES

Because radioisotopic analysis has become a fundamental tool of the laboratory scientist, training in the use of radioisotopes is an important part of the undergraduate science curriculum. In order to expose students to nuclear chemistry without increasing their course load, this project would develop a series of experiments demonstrating applications of radioisotopes to the agricultural, biomedical, and environmental sciences.

The experiments would be incorporated into the traditional chemistry laboratory curriculum. Each experiment and protocol would be tested thoroughly and the protocols revised on the basis of these trials. Successful completion of experiments by students would form the basis for evaluating the project's effectiveness.

LATEST REPORT: The Project Director selected experiments that rely upon liquid scintillation counting and do not require an AEC license or extraordinary facilities. Techniques standard to the target laboratory courses were utilized in order to facilitate implementation.

Michael V. Keenan
Chemistry
UW-River Falls

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|---|---|
| UPDATE 8/85 | AMOUNT $6,354 |

DESCRIPTORS

*Agricultural Sciences; *Chemistry; *Environmental Studies; *Health Sciences; *Natural Sciences; *Physical Sciences
Laboratory Sciences

778012 A

TITLE: A CUMULATIVE READING IMPROVEMENT PROGRAM, COLLEGE OF NATURAL RESOURCES

The purpose of this project was to develop a program both to measure the reading ability of students entering the College of Natural Resources and to encourage a specific level of competency to be achieved by the end of the sophomore year.

LATEST REPORT: English Department and College of Natural Resources faculty have cooperated in the planning and implementation of the program. Students needing help are identified through a testing program and are advised to enroll in a "Reading for Meaning" course or in special freshman English sections which provide reading material of special interest to students in environmental studies. Required reading emphasis courses have been identified in subject areas, and a list of electives that will reinforce reading skills is provided to upper division students.

Initial testing performed Summer 1977 produced somewhat distorted results due to poor scheduling. Better scheduling Summer 1978 should lead to a more reliable selection of experimental and control groups. In addition, the course name has been changed to "Reading for Science" to make it more attractive to science students. Guests from the College of Natural Resources staff will serve as resource persons for the class in Fall 1978.

The effectiveness of direct teaching and an announced reading emphasis will be assessed at the end of 1978-79 by these means: a comparative analysis of entering and competency test scores (a competency exam will be given at the end of the sophomore year), grade points, and college attrition rates. The College of Natural Resources staff will provide continuing evaluation. INACTIVE.

Helen M. Cornell
English
UW-Stevens Point

UPDATE 6/82 AMOUNT $13,582

DESCRIPTORS
*Basic Skills Reading; *Natural Resources
Testing

778013 A

TITLE: AN AUDIOVISUAL SUPPORTED LABORATORY MANUAL FOR "INTRODUCTORY FOREST RESOURCES"

To overcome the practical problems inherent in providing demonstrations of forestry techniques, slide/tape programs and a written manual were to be developed for the introductory forestry course at UW-Stevens Point. Student performance would be measured in relation to a control group that did not use the materials; faculty and students' evaluations would also be solicited.

LATEST REPORT: Five slide/tape programs were completed: "Tree Identification," "Tree Measuring Instruments," "Compass/Pace," "Timber Stand Characteristics," and "Plantation Management;" nine written handouts were also prepared. The instructor's manual that accompanies the materials provide copies of the handouts, scripts of the tapes, and black-and-white prints of the slides.

The materials were used during Fall 1977 and Spring 1978 in a fourteen section forestry laboratory. Because all wanted to use the material, the plan to test the experimental and the control group was revised and all students and faculty were given questionnaires about the materials. Some changes in handout material were recommended; these are being implemented. On the whole, the handout material was considered the most beneficial part of the project by students and faculty.

The material will continue to be used in the introductory forestry course; it is also appropriate for other courses in forestry, conservation, and environmental education. The programs are designed to give latitude to each instructor and are thus adaptable to various curricular formats. An annotated syllabus of the materials has been distributed to UW System forestry faculty; copies of the material can be purchased from the Project Director at cost and may be commercially available in the future.

N. Earl Spangenberg
College of Natural Resources
UW-Stevens Point

UPDATE 5/82 AMOUNT $5,920

DESCRIPTORS

*Forestry; *Natural Resources; *Environmental Studies
Laboratory Sciences; Modular Instruction; Audio Visual Multimedia

778014 A

TITLE: MARKET TIPS: INDIVIDUALIZED INSTRUCTION IN UNDERGRADUATE MARKETING COURSES THROUGH THE USE OF TEACHING INFORMATION PROCESSING SYSTEM (TIPS)

This project proposed the adaptation of TIPS. TIPS surveys help the instructor to gather information about each student's understanding of the course material and provide feedback appropriate to each student's instructional needs; TIPS is also extremely useful as an aid to internal course management. In conjunction with a large lecture course, TIPS lets the instructor accommodate a heterogeneous student body without loss of instructional effectiveness. Implementation of TIPS in the principles of marketing course at UW-Whitewater would involve a reformulation of the basic concepts of the course, the development of modules and special assignments, and the creation of appropriate computer survey materials.

LATEST REPORT: Twelve units of examinations, messages, and outside reading recommendations were developed for the principles of marketing course. During the first implementation of TIPS in Summer 1978, evaluation of effectiveness was achieved by making TIPS available to students in preparation for the first and second exams but not for the third. Student performance was significantly better for exams in which TIPS was available and students complained that the withholding of TIPS for the third examination was "unfair." In fact, students' enthusiasm for TIPS inhibited t-testing planned for Fall 1978: students in the experimental section of the marketing course were passing on TIPS survey information to the control group.

In January, 1979, a second faculty member implemented TIPS in his section of the marketing course; the Project Director foresees expansion of TIPS usage to all twelve sections of basic marketing. Faculty members in other departments within the School of Business at UW-Whitewater have also begun to develop TIPS programs. Persons interested in applying TIPS to business courses may receive assistance and sample survey material from the Project Director.

Edward Vitale
Marketing
UW-Whitewater

UPDATE 8/79 AMOUNT $9,073

DESCRIPTORS
*Business; *Marketing
Computer Managed Instruction

778015 A

TITLE: INTERDISCIPLINARY WOMEN'S STUDIES PROGRAM

Because women's studies is an interdisciplinary field, courses ideally should be team taught by faculty members from several disciplines. The participants in this project were to develop two team-taught courses: "Introduction to Women's Studies" and "Women, Marriage, and Family: Multi-Disciplinary Perspectives." These courses would serve as models for the development of other interdisciplinary offerings to add breadth to the women's studies program at UW-Whitewater. The course would be evaluated both by students and by outside faculty members representing the disciplines included in the courses.

LATEST REPORT: "Introduction to Women's Studies" was offered in Fall 1977; student reception to the course and to the team-teaching approach was very positive. It seems likely that students' enthusiasm was at least partly responsible for the doubling of enrollment in the second course, "Women, Marriage, and Family," which was given during Spring 1978. Evaluation of both courses by outside faculty was very favorable.

The project staff recommends that released time be provided not only for the team-teaching of a new interdisciplinary course, but also for its planning and development. The courses will be taught again; copies of the two syllabi have been distributed to other women's studies programs in the UW System.

Agate Krouse
Women's Studies
UW-Whitewater

UPDATE 8/79 AMOUNT $16,914

DESCRIPTORS
*Women's Studies
Course Development; Team Teaching

778016 B

TITLE: IMPLEMENTATION OF TIPS IN THE TEACHING OF UNDERGRADUATE SCIENCE COURSES AT UW CAMPUSES

A ten-day workshop in the use of Teaching Information Processing System (TIPS) was proposed. Participants would be trained to formulate teaching objectives, develop teaching strategies, write diagnostic surveys, and prepare remedial and/or enrichment study materials. Participants would be instructed in both batch and interactive applications of TIPS.

LATEST REPORT: Eleven science professors from nine campuses in the UW System began work on TIPS units during the Summer 1977 workshop. Participants completed and implemented them in Fall 1977. Participant responses to the workshop were favorable. For most, the experience of preparing teaching objectives was new and satisfying. Participants profited from the exchange of ideas, materials, and strategies.

Initial technical difficulties in implementing TIPS were resolved. As a result of this workshop and a grant (745021A) to develop CHEM-TIPS, TIPS has been applied to some 20 courses involving over 10,000 students. Interactive TIPS has been programmed on several computers in the UW System. Batch-processed TIPS has been developed for Burroughs 5700.

Students and instructor responses to TIPS have been extremely favorable. Students report that learning tasks are better defined and the surveys are helpful; they overwhelmingly recommend continuation of TIPS. Some instructors also report subjective evidence that students perform better on final examinations as a result of TIPS.

In Spring 1979 two short workshops were held at UW-La Crosse for System science and business faculty. Also the 1977 workshop was a model for a National Exxon Educational Foundation CHEM-TIPS Workshop at UW-Madison in Summer 1979 led by the Project Directors.

Roland R. Roskos
Chemistry
UW-La Crosse

Bassam Z. Shakhashiri
Office of Assistant Director
for Science and Engineering Education
National Science Foundation
Washington, D.C. 20037

UPDATE 8/79

AMOUNT $21,353

DESCRIPTORS
*Chemistry; *Faculty Development; *Natural Sciences
Computer Managed Instruction; Faculty Development

778017 B

TITLE: DEVELOPMENT OF "GEOLOGY OF WISCONSIN" COURSE TO BE TAUGHT IN THE FIELD DURING SPRING INTERIM OR SUMMER SESSION

Because weather conditions during the academic year limit the time available for field trips, this proposal sought to develop a three-credit field course that could be taught during either the spring interim or the summer session. "Geology of Wisconsin" would emphasize field techniques and interpretation and would include new interpretations of precambrian, paleozoic, and pleistocene geology that are not available in current texts.

LATEST REPORT: The three-week course was first offered in May-June, 1978, with an enrollment limited to 60 students from UW-Madison, UW-Milwaukee, UW-Oshkosh, and UW-Eau Claire. The original proposal provided for establishing three base camps, but practical considerations led to the use of public campgrounds closest to points of geological interest. Three faculty specialists in the three major areas of study (precambrian, paleozoic, and pleistocene) led the expedition.

Student and faculty response to the course was highly favorable. The team teaching by faculty from several campuses proved especially valuable. The course has been recommended as an orientation for new members of the state geologist's staff and for beginning graduate students in geology. Faculty and students from other campuses are also interested in the course. In the future, the Project Directors hope to offer the course under the administrative direction of UW-Extension in order to avoid the problems of multi-campus budgeting.

A comprehensive 350-page guidebook, the most extensive guide to Wisconsin geology ever assembled, was created for use with this course. It is available for the cost of postage either from the Project Director at UW-Oshkosh or from the Wisconsin Geological and Natural History Survey, 1815 University Avenue, Madison, Wisconsin 53706. A list of outcrop (location) descriptions and individual stop descriptors are available upon request.

Gene L. La Berge
Geology
UW-Oshkosh

UPDATE 6/82 AMOUNT $11,800

DESCRIPTORS
*Geology
Field Studies; Course Development; Team Teaching; Workbooks

778018 A

## TITLE: A BIKEHIKE'SKI INTO ENVIRONMENTAL PROBLEMS

The Bikehike'ski was created as an elective field component offering a new approach to teaching environmental problems within a cultural geography course. Students would bicycle, hike, or ski through the immediate locale in order to gain firsthand experience in recognizing environmental problems. Traveling with maps created by the Project Director and using cameras and tape recorders to document environmental abuses, the students would gain both a basis for developing techniques to correct these problems and a confidence in their ability to take action to improve the local environment. Each student would follow the field trip with research investigating one type of abuse in depth; he or she would then report the information to other students in the course. Students would evaluate both their own field experience and the impact of the project on the entire course.

LATEST REPORT: About forty students, or 65% of those enrolled in cultural geography, participated in the first Bikehike'ski in Spring 1978. Considerable experience in map-reading was gained by most of the students because they chose to map their own routes. They reported either in poster form or orally to the class on the variety of environmental abuses encountered. Students were very enthusiastic about their own field experience and about one another's reports.

The project will definitely be continued. The maps and equipment acquired through the grant are very useful to the geography curriculum. Other faculty in the geography department at UW-River Falls are adapting this project to their courses; the Bikehike'ski is also suitable for courses in environmental studies or other social problems.

Copies of the maps are available from the Project Director. Since they document only the environment of River Falls, these maps might best serve as models for mapping other campus areas.

Ruth F. Hale
Geography
UW-River Falls

UPDATE 8/79 AMOUNT $3,620

DESCRIPTORS
*Geography; *Environmental Studies
Field Studies

778019 WC

## TITLE: PRESCRIBED LEARNING ACTIVITIES BASED ON PIAGET'S THEORY OF COGNITIVE DEVELOPMENT

A computerized system for student self-evaluation that would provide individualized prescriptive feedback was to be incorporated in a large-enrollment basic physics course being taught in the PSI mode. The self-evaluation component, an enhanced version of the Teaching Information Processing System (TIPS) used at UW-La Crosse, would prescribe different learning activities on the basis of a student's reasoning skills; Piaget's theory of cognitive development would serve as the framework for defining levels of problem-solving skill from concrete to formal reasoning.

Use of the system would be optional to students for two semesters, and its effectiveness would be evaluated both by student response to questionnaires and by comparing students' achievements in previous semesters.

LATEST REPORT: The Project Directors began by designing a pretest of reasoning skills; the problem-solving approaches an individual student selected in the pretest would serve as the basis for selecting and prescribing individualized learning activities suitable for that student in relation to specific objectives.

Students used the system extensively. They especially liked the opportunity to test themselves on the objectives of the course units at any time. The system has not yet been in use long enough to determine whether the prescriptive nature of the feedback is beneficial or whether the criterion for generating the prescriptions is valid. A comprehensive analysis of the student's achievements in comparison to students from previous semesters is under way.

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|---|---|
| Allan Hilgendorf<br>Physics<br>UW-Stout | Mark Larchez<br>Physics<br>UW-Stout |
| UPDATE 8/79 | AMOUNT $5,330 |

DESCRIPTORS

*Physics
Computer Autotutorial; Audio Visual TV Taped

778020 WC

TITLE: AN ANALYSIS OF OUTSTANDING LOWER DIVISION LITERATURE PROGRAMS AMONG OPEN ADMISSION UNIVERSITIES IN THE MIDWEST AND IMPLICATIONS FOR WCWC INSTITUTIONS

To counter the decline in student selection of elective lower division literature courses and the students' attitude that required literature courses are a necessary evil, an analysis of successful literature programs at other institutions was undertaken. Personal contact was to be established with English departments at Midwest universities which have characteristics similar to those of WCWC institutions to gather data on successful efforts to enhance literature programs in such areas as curriculum, use of materials and equipment, public relations, and staffing. Subsequently, the Project Director was to visit three to five of these institutions for observation and interviews. The findings were to be circulated among the WCWC institutions.

An advisory committee of faculty from English departments and an assistant dean were to monitor the progress of the study and consider questions of feasibility regarding implementation of the results.

LATEST REPORT: The analysis is now completed and the results have been distributed to the WCWC institutions. Comparatively little of the information which the Project Director sought, such as specific suggestions concerning course content and materials, was obtained; however, the contacts with various institutions provided ample evidence that great success with literature courses for non-majors is possible through philosophical adjustments in the outlook of whole departments. That is, the department must recognize that its service function is its most important one; it must promote its offerings through whatever means are available throughout the university; and it must staff general education courses with the best teachers.

The Project Director presented a paper on the subject to the Wisconsin Council of Teachers of English in 1979. Research into and application of innovative ways to link non-major graduates to culture continue.

Sue Beckham
English
UW-Stout

UPDATE 8/83 AMOUNT $7,769

DESCRIPTORS
*English
Course Development; Faculty Development

778021 WC

TITLE: THE INTEGRATION OF VALUES EDUCATION AND ACADEMIC DISCIPLINES

As society becomes increasingly complex and value conflicts more evident, students need opportunities to examine their own value systems and to apply the valuing process to their professional and personal lives. The Project Directors designed a two-phase workshop to help faculty from a cross-section of academic disciplines integrate values education into the undergraduate curriculum.

Ten faculty from institutions in the West Central Wisconsin Consortium, representing liberal studies, professional education, and technical fields, would participate in the workshop. During an orientation session each participant would select a course for which to develop a values component; materials would be created and piloted during the semester, and an intensive workshop at semester's end would permit participants to share and refine their curricular materials. The project would include a multifaceted evaluation of the workshops, the participants' projects, and the undergraduate courses in which the materials would be used.

LATEST REPORT: The project, implemented in Spring 1978, was very successful. A two-day orientation workshop introduced faculty to values theory and various values education strategies. Values components were developed for courses in art education, music education, biology, political science, reading methods, personal health, materials and processes, history of women, psychology, and elementary education. The intensive eight-day curriculum development workshop held in Summer 1978 was particularly effective. The staff presented a basic curriculum model that each participant could adapt; films, books, tapes, and slides were presented for critique.

Each of the ten participants has used the newly developed instructional materials in courses taught during the 1978-79 school year. The Project Directors have concluded that this kind of workshop--small, transdisciplinary, and interinstitutional--is an extremely valuable mechanism for faculty renewal and instructional improvement.

Virginia Peter
Education and Psychology
UW-Stout

UPDATE 8/79 AMOUNT $12,735

DESCRIPTORS
*Faculty Development; *Interdisciplinary
Faculty Development; Course Development

778022 WC

TITLE: WEST CENTRAL WISCONSIN CONSORTIUM ARTS EXCHANGE

Individual professional visits between arts departments in the West Central Wisconsin Consortium have occurred, but this proposal was the first attempt to organize a large-scale, diversified exchange of art exhibits, musical performances, and dramatic productions among WCWC institutions. The project was to include one- or two-day residencies in the form of lectures, demonstrations, and workshops to encourage the exchange of ideas among participating departments.

Surveys of theatre/speech, art, and music departments were to be taken to determine what presentations each department wished to contribute or to host. Evaluations would be completed by both the visiting artists and the host departments in order to assess the artistic and educational benefits of the project. Student responses to the program would also be solicited.

LATEST REPORT: The arts exchange project has been completed. Music recitals were the most fruitful component of the program with 21 applications for exchange, 12 exchanges approved, and 10 actually taking place. The attendance at music programs was very high, including over 800 students and 400 to 500 members of the community. In the field of art, three miniconferences were held; a fourth was cancelled due to scheduling problems. One exchange in the speech area was accomplished during an oral interpretation workshop at UW-River Falls.

Despite differing degrees of departmental support and some problems with scheduling and budget, the project was judged a modest success and some kinds of arts exchanges will continue. Since music was the most effective area of exchange, the project director recommended that funds especially be sought to continue this component of the program. INACTIVE.

Donald Nitz
Music
UW-River Falls

UPDATE 8/79 AMOUNT $8,159

DESCRIPTORS
*Arts; *Art; *Music; *Theatre
Faculty Development; Performances

778023 WC

TITLE: COMPOSITION/AMERICAN STUDIES, AN INTERDISCIPLINARY BASIC STUDIES COURSE

A basic studies composition course as an integral part of a liberal education course was proposed to stimulate student interest in composition. American studies is particularly suited for this purpose since students would be able to contribute insights from their personal experiences; a wide range of media and a variety of cultural viewpoints could be used; and the course would allow students to explore potential academic majors. The proposal was to develop a course based on consultation with the English departments of the West Central Wisconsin Consortium institutions and to provide the syllabus, bibliography, and catalog of audiovisual materials.

LATEST REPORT: Discussions with faculties of departments of English led to the conclusion that overcoming student apathy and anxiety was a critical need. The trial course was considered successful in meeting the goals of motivating students, encouraging participation, promoting critical assessment, and providing an introduction to liberal education. Two kinds of classes were formed--one section by selected enrollment and two sections by open enrollment. The students generally approved of the course. The Project Director was impressed by the fact that more students than usual sought conferences; the research papers reflected a fuller and more sophisticated use of the library; and there was a wider variety of research topics.

The syllabus for the trial course, summaries of the evaluations, an assessment of the project, and the syllabus for a subsequent quarter were incorporated in a report distributed to the departments of English in the West Central Wisconsin Consortium. Inasmuch as discussions with faculty revealed that a catalog of audiovisual materials would be duplicative, a catalog was not compiled; however, an annotated list of slides was included in the report. Copies of the final report are available from the Project Director.

Recently, the Project Director has developed a very short version of this course for the Elderhostel curriculum.

James DeMuth
English
UW-River Falls

UPDATE 8/83 AMOUNT $3,116

DESCRIPTORS
*Basic Skills English Composition; *American Studies
Course Development; Audio Visual Multimedia

778024 WC

TITLE: THE EARLY IDENFIFICATION OF POTENTIAL ACADEMIC FAILURES IN LARGE GENERAL EDUCATION COURSES USING A COMBINATION OF INTELLECTUAL AND NON-INTELLECTUAL PREDICTORS OF ACADEMIC PERFORMANCE

Combinations of intellectual and prior achievement variables have provided reasonably accurate predictions of student performance in college. However, such predictions have failed to account for significant portions of variance in student performance. Part of the unexplained variance may be due to non-intellectual variables such as student personality and adjustment factors.

LATEST REPORT: This project investigated three types of variables as predictors of academic success during the first semester of a freshman's tenure in college. Two of these predictors were non-intellectual predictors--the California Psychological Inventory and the Irrational Beliefs Test. The other was a combination of intellectual and nonintellectual predictors--the standard scores and biographical information of the American College Test. These instruments were evaluated to see how well they predicted in combination the following outcomes: 1) achievement in a large basic studies course--Biology 100; 2) first semester grade point average; and 3) attendance in a course with an open laboratory format.

Total time spent in the laboratory was calculated from the time records that the students had maintained. Identification of intellectual, personality, and adjustment variables was accomplished using a stepwise multiple regression procedure with ACT, CPI, and IBT scores as explanatory variables, and percent scores in biology and semester grade point average as performance measures. Scoring keys for each of the 44 independent variables were constructed and a special computer scoring program was written to accommodate the data. The program was found to contain a technique to predict a student's Biology 100 percent score or the first semester grade point average prior to the beginning of the term. The Project Director saw this as a potentially useful tool for instructors as well as counselors to identify those students who are likely to excel in college or those who are likely to have academic problems. INACTIVE.

Richard P. Nord
Biology
UW-La Crosse

UPDATE 5/82 AMOUNT $6,648

DESCRIPTORS
*Biology
Testing

778025 WC

## TITLE: A MODULAR APPROACH FOR ELEMENTARY STATISTICS

In response to a growing diversity of students enrolled in elementary statistics courses, this project would prepare three instructional modules. A program of self-paced modules would permit faculty to deal more effectively with variations in students' motivation, preparation, needs, and learning styles. The modules could be used within an individualized program of instruction; in a traditional course for use by small groups and individuals or to replace traditional texts; or as an adjunct to courses in other disciplines such as mathematics, business, or education that include a statistics component.

Each module would have specifically stated prerequisites and objectives and would include self tests. The modules would undergo three stages of evaluation and revision based on peer review, student review, and testing in various classroom settings. Completed and tested modules would then be made available on request to interested faculty.

LATEST REPORT: Two modules and an additional unit were developed, tested, and revised. Students responding to a questionnaire reported the modules to be very helpful, clearly written, and effective. The Project Director hopes to continue work on an extension of this project so that eventually the modular approach can be used for an entire elementary statistics course.

The following materials are available on request from the Project Director: Module P: Probability; Module NPS: Nonparametric Statistics; Unit RS: Response Surfaces.

Elroy E. Gotter
Mathematics
UW-Eau Claire

UPDATE 8/79 AMOUNT $5,264

DESCRIPTORS
*Statistics
Modular Instruction; Autotutorial

# GRANTS AWARDED

## 1978 - 79

789001 A

TITLE: PEER-ASSISTED TEACHING IMPROVEMENT PROJECT

The problem of upgrading and maintaining instructional effectiveness is continual and especially crucial in a period of "accountability." A peer-assisted teaching improvement project was one way of addressing the problem.

In a series of workshops, outstanding instructors from a variety of disciplines within the University of Wisconsin System were to be invited to demonstrate the teaching methods they use most effectively and to suggest how workshop participants might adapt these methods to other subjects.

LATEST REPORT: The Project Directors, in conjunction with the committee chosen to select leaders (presenters) and participants, formulated and used criteria to select both groups for a series of workshops offered one afternoon a month between August 31, 1978 and April 26, 1979.

The eight sessions involved presentations and discussions of the following instructional methodologies: lecture, simulation, laboratory, role playing, small group procedures, individualized instruction, television, multi-media presentations, and demonstration.

The Directors assess the series as moderately successful. The workshops presented an interdisciplinary forum, provided time for participants to reflect upon instructional strategies, and moved some instructors to experimentation. However, the series had problems in terms of physical facilities, sustaining participant interest and commitment across an extended period of time, and providing consistently high quality presentations.

Participant evaluation of the eight individual workshops as well as their interim and final evaluations were essentially positive.

A campus course entitled "Targeted Instruction" is now used for upgrading faculty instructional skills. INACTIVE.

Nan Dougherty
English
UW-Eau Claire

John Whooley, Associate Dean
School of Education
UW-Eau Claire

UPDATE 8/85

AMOUNT $3,500

DESCRIPTORS
*Faculty Development
Faculty Development

789002 A

TITLE: A MULTI-METHOD INSTRUCTIONAL APPROACH TO ORGANIC CHEMISTRY

An undergraduate organic chemistry course requires the learner to exhibit skills in using abstract theoretical concepts to interpret experimental data; to visualize and project three-dimensional structures; to solve mathematical problems; and to memorize, categorize, and reorganize considerable material. Considering the diversity of learning skills required by the subject matter, a diversity of methods might also be required to achieve maximum learning. Whether the nature of the subject matter tends to determine the success of a teaching technique was to be investigated.

The purpose of the project was to make a significant improvement in the overall design of introductory organic chemistry.

LATEST REPORT: Progress has been limited inasmuch as the Project Director assumed the department chairmanship; however, some materials were completed in 1979-80 and tested in the Chemistry Department Learning/Resource Center.

The minicourses will be used in a formal course. As originally planned, in certain instances the students will be given a choice of teaching/learning methodology and an attempt will be made to determine whether the methodology has a measurable effect on the degree of learning.

Evaluation of the significance of an instructional method relative to academic achievement will proceed through a combination of multiple-baseline and reversal design research techniques. The accompanying study will attempt to measure the effectiveness of a particular teaching technique with a given subject matter.

The minicourses are available from the Project Director on request. INACTIVE.

Joel Klink
Chemistry
UW-Eau Claire

UPDATE 8/85 AMOUNT $7,951

DESCRIPTORS
*Chemistry
Cognitive Style; Minicourse

789003 A

TITLE: A PROPOSAL TO IMPROVE STUDENTS' COMPREHENSION OF FUNDAMENTAL GEOLOGIC CONCEPTS THROUGH THE USE OF SATELLITE-DERIVED IMAGERY

Maps and aerial photographs have long been recognized as tools of the geologist, but it is only within recent years that photographic products prepared from satellite data have become available. Development of students' skills in using this imagery is consistent with the goal of the Geology Department to encourage its majors to develop a strong background in current geologic methods. Use of this imagery will also aid in providing an understanding of the earth sciences to non-majors in general studies courses.

The purpose of this proposal was to develop an annotated set of visual aids and laboratory exercises using satellite imagery of geological features. The imagery would be in the form of 35mm slides and photographic enlargements. Students would learn to use a new research tool and be able to duplicate or initiate problems in geologic research. Where used as a visual aid only, the imagery would illustrate geologic concepts that may be difficult for students to visualize otherwise.

LATEST REPORT: The Project Director selected imagery at the U. S. Geological Survey's Eros Data Center at Sioux Falls, South Dakota. The imagery consisted of 237 color 35mm slides covering about 75% of the United States and 120 black and white negatives and color prints. The materials were introduced in a special topics course, "Geological Applications of Landsat Imagery," in Fall 1979 and then used in more general geology classes during Spring 1980.

James R. Wilson
Geology
UW-Eau Claire

UPDATE 8/80 AMOUNT $3,427

DESCRIPTORS
*Geology
Visual Photographs; Visual Slides

789004 A

TITLE: ELEMENTARY STATISTICS WITH EXPLORATORY DATA ANALYSIS

Traditional statistical inference methods, hypothesis testing, and confidence intervals do not adequately cover the expanse of problems involving data. After a course in statistics, students often feel that unless they can test a hypothesis or construct a confidence interval, their data are useless. The purpose of this proposal was to plan for the inclusion of exploratory data analysis (EDA) in the elementary statistics course.

Among other applications, exploratory data analysis can be used to summarize data, to detect outliers, to suggest transformations, to detect cycles, and to interpret interactions. Some of these applications provide sufficient analyses in themselves; others are stepping-stones to inferential techniques.

LATEST REPORT: Although the techniques of EDA are simple, they can become tedious. The aim of the project was to develop a computer package to lessen that tedium and remove some of the anxiety of students while they are learning the techniques. The routines were written in Basic and are designed for the HP 2000.

After trial in a summer special topics course, the techniques and computer package were introduced in the elementary classes in Fall 1978. Since then the narrative section of the materials has been completed and EDA has become a regular feature along with traditional statistical inference techniques.

| | |
|---|---|
| Thomas A. Aiuppa<br>Mathematics<br>UW-La Crosse | Arden J. Ross<br>Mathematics<br>UW-La Crosse |
| UPDATE 8/80 | AMOUNT $3,880 |

DESCRIPTORS
*Statistics
Computer Problem Solving; Workbooks

789005 A

# TITLE: THE PREPARATION OF STUDY FILMS DESIGNED FOR FACILITATING THE ACQUISITION OF SKILL IN THE OBSERVATION AND ASSESSMENT OF THE MOTOR DEVELOPMENT OF YOUNG CHILDREN

In order to give good individual instruction to a child, a schoolteacher must have access to meaningful developmental information and must be given assistance in acquiring skill in observing the developmental level of individual children as well as in assessing change when it does occur.

A unique long-term longitudinal study designed to research change in the movement patterns of children and a second, shorter duration (three-year) longitudinal study have been conducted at UW-Madison. Using the film resources provided by these unique studies, this project was to produce master-copy inter-negatives of 16 mm motion picture films. The materials were designed to aid undergraduates and in-service teachers in the acquisition of information and observational skills in assessing the motor development of children and adolescents.

LATEST REPORT: Three films were completed: "Developmental Steps in Hopping," "Developmental Steps in Skipping," and "Development of Overarm Throwing." They are applicable to courses in motor development, physical education for the young child, and physical education for the handicapped.

The films have been exceptionally effective in aiding students in learning to observe detailed movement changes in the performance of children and adolescents. The ultimate test of their effectiveness will be demonstrated by systematic research, but in the meantime, they have been enthusiastically received by students and other faculty.

The films may be ordered for the cost of the print in 8 mm or 16 mm copies. A user's manual provides a guide for study procedures and includes supplementary details that were too lengthy to be included on the films.

Lolas E. Halverson
Physical Education and Dance
UW-Madison

UPDATE 5/82 AMOUNT $6,081

DESCRIPTORS
*Physical Education; *Teacher Education
Audio Visual Film; Motor Development

789006 A

TITLE: A PROPOSAL TO IMPROVE THE EFFECTIVENESS OF UNDERGRADUATE INSTRUCTION IN CERTAIN BUSINESS SCHOOL COURSES THROUGH THE USE OF AN INTERACTIVE DISPLAY SYSTEM AND COMPUTERIZED MATHEMATICAL MODELS

The School of Business seeks to integrate the business function with the larger social, economic, and environmental goals of society. Paradoxically, the very complexity of the paradigms describing those larger goals prevents an integrated instructional presentation. The proposed enhancement would allow access to large scale System models to a degree not heretofore possible, thus broadening the student's perspective and deepening the understanding of business and the social system.

The purpose of the project was to allow the effective integration of large and often complex models of the urban economy and other areas with typical classroom instruction and discussion. Using a large screen projection system and an intelligent terminal/monitor, the instructor would be able to manipulate the mathematical model interactively and immediately display the results to students, thus facilitation student understanding not only of the model's structure but of its uses.

LATEST REPORT: Prototype equipment was tested during Spring 1979, and the trial was considered a success. Delivery of components has been delayed; however, it is anticipated that the equipment will be operative for courses in urban economics, real estate process, and real estate finance in Fall 1979. This equipment has an additionaL capability in graphics that was not a part of the original proposal but which will be utilized in the planned presentations.

Evaluation will be conducted through a series of standardized tests, special questions concerning the effectiveness of the models, and an existing course evaluation instrument. Results of the questionnaires from classes which have and have not used the computer models will be compared.

Craig E. Stanley
Real Estate and Urban Land Economics
UW-Madison

UPDATE 8/79 AMOUNT $8,989

DESCRIPTORS
*Real Estate; *Urban Studies; *Business
Computer Simulation

789007 A

TITLE: ADULT ENTRY MODEL

The UW-Oshkosh College of Letters and Science proposed a program to help adults prepare for entry or reentry into the university. Often adult students have special academic needs which traditional undergraduate programs fail to accommodate. If these needs remain unmet, the likelihood of many adults completing post-secondary education is reduced.

The adult entry model consisted of four components: a non-credit orientation program which would include testing, counseling, and assistance in matriculation; and three one-credit courses in writing, mathematics, and reading/study skills. Each component was to be offered during daytime, evening, and weekend hours each semester. The Program Development Center and Testing Center conducted the evaluation.

LATEST REPORT: The orientation and reading/study skills components of the adult entry model were first offered in Summer 1978; child care was provided during the two weeks when the modules were taught. All four components were offered several times during Fall 1978. The modules satisfactorily addressed both anxieties and academic needs of adult learners who were considering matriculation. The Bachelor of Liberal Studies, a program for adults, now enrolls over 120 students and incorporates the four project components. Almost all B.L.S. students use those modules.

The project also provided a modest research base for testing hypotheses about the needs of adult learners. The Project Directors found that the adult students did not necessarily need remedial programs in writing, mathematics, and study skills; that they appeared more motivated and more committed than traditional students; and that the most significant effect of "entry" courses was to create a sense of competence in academic abilities rather than to provide basic instruction. A copy of the project report can be obtained from Thomas Herzing, College of Letters and Science.

Robert Chaffin
Bachelor of Liberal Studies
UW-Oshkosh

UPDATE 5/82 AMOUNT $5,120

DESCRIPTORS
*Adult Students; *Basic Skills English Composition; *Basic Skills Mathematics; *Basic Skills Reading
Testing

789008 A

TITLE: INTEGRATION OF GOVERNMENT DOCUMENT RESOURCES INTO COURSE WORK

Government publications are often overlooked by faculty and students. This widespread problem has its roots in a general lack of recognition of the valuable information which they contain. Teamwork between faculty and librarians to increase familiarity with these materials would be a way to overcome the problem.

The librarian proposed to work closely with five teaching faculty, who offer over a dozen courses, to revise existing courses in order to include the extensive use of government documents. The librarian also was to develop library instructional techniques and other materials that might assist a specific class, such as a list of documents of interest to that discipline.

LATEST REPORT: The courses incorporated use of the government documents--some to a greater degree than others--during Fall 1978 and Spring 1979. Because of these variations, a survey of the students produced mixed results.

Five slide-tape presentations were developed and shown to the classes. They include an introduction to the documents section of the library and explanations of some resources, such as the Index to Government Periodicals and the Congressional Information Service, and how to use them. These presentations have been used also by classes in library science.

The slide/tape presentations are still being used. The Government Documents Area uses them for new student assistants' orientation and introduction to the area in which they will be working. Two of the professors have left the university (retirement and non-renewal). One professor uses lists that were prepared for his class. The other two may at times assign projects using the documents (for example in geography: compiling maps from government sources). The 13 handouts are still widely used for library orientation, especially the map and the ones dealing with basis indexes.

Gerald J. Krueger
Libraries/Learning Resources
UW-Oshkosh

UPDATE 8/85 AMOUNT $5,369

DESCRIPTORS
*Economics; *Geography; *History; *Political Science; *Sociology;
*Library Resources;
Library Skills; Audio Visual Multimedia

789009 A

TITLE: DEVELOPMENT OF AUDIO-TUTORIAL MODULES TO IMPROVE BASIC SKILLS IN DATA PRESENTATION, INTERPRETATION, AND ANALYSIS

Awareness of and skill in using a quantitative approach are becoming more and more necessary to function effectively in our modern industrialized society. This proposal was to develop audiovisual tutorial materials to improve basic quantitative skills needed to analyze and interpret data. Some modules were to focus on the graphical form while others dealt with data sampling and comparisons. The modules were intended primarily for majors in the natural sciences but would be useful to various undergraduate disciplines that apply quantitative methods to data analysis.

LATEST REPORT: Since the intent of this project was to supplement commercially available materials, the first step was acquisition and categorization; then that summary served as the base for planning the supplementary modules. Modules average 30-35 minutes and each is accompanied by a booklet containing notes and work activities pertaining to the skill described in the videotape.

A list is available for distribution which briefly describes the content of each videotape module together with what is commercially available. These materials cover the following topics: data measurement and manipulation, data presentation, data sampling, graphing data, data analysis and comparison, probability, and hypothesis testing.

As the tapes were completed, they were tested within the context of an existing class in quantitative biology. They were apparently successful insofar as content was concerned, although there was some student resistance to using the tapes instead of meeting with the instructor.

Tapes (there will be a copying charge for the tape) and some printed materials are available to interested faculty in the System.

Joseph S. Balsano
Life Science
UW-Parkside

UPDATE 5/82 AMOUNT $7,441

DESCRIPTORS
*Basic Skills Quantitative Skills; *Natural Sciences
Audio Visual TV Taped; Autotutorial

789010 A

TITLE: LABORATORY EXPERIENCES FOR AN UNDERGRADUATE COURSE IN THE PHYSICS OF MUSICAL ACOUSTICS

The potential overlap of interests in the very different disciplines of physics and music is evident in such applications of physics to music as sound production by voice and instrument, sound reception by the ear, and in-room acoustics. This particular project involved the development of laboratory experiments and lecture demonstrations for a new course in the physics of music that was to be open to physics and music students.

LATEST REPORT: The experiments included visual representations of sound reception by the ear, sound production by voice and instrument, and in-room acoustics. These were successful in stimulating the interest of the non-science oriented students; the needs of the physics students were met in a supplementary discussion section where the mathematics was reviewed.

The Project Director has also added a hands on project which has been well received by students. He prepares a dulcimer kit for each student. Then each student builds a dulcimer on his or her own.

Curtiss O. Larson
Physics
UW-River Falls

UPDATE 8/83 AMOUNT $14,907

DESCRIPTORS
*Interdisciplinary; *Physics; *Music
Laboratory Sciences

789011 A

TITLE: BIBLIOGRAPHICAL TRAINING AS AN INTEGRAL PART OF INSTRUCTION IN GEOLOGY

Knowing how to find information is essential to independent learning. Instruction in the skills of information-finding is most effective when it is jointly developed by teaching faculty and librarians and when it is fully integrated into instruction in every discipline. Since neither teaching faculty nor learning resources faculty at UW-Whitewater had experience in the joint development of course-integrated bibliographical instruction, a local model was needed--one based on techniques of proven merit.

After consulting faculty and librarians at Earlham College on course-related bibliographical instruction, the Project Directors planned to redesign, test, and evaluate parts of a basic course and several advanced courses in geology which were intended to encourage students to continue to educate themselves by teaching them how knowledge of geology and related sciences is produced and organized, and how to locate and gain access to this knowledge.

LATEST REPORT: In Fall 1978 the introductory geology course was modified to emphasize the library project requirement. At the same time, the reference librarians developed handouts to ease or eliminate some of the frustrations students have in using reference materials. In Spring 1979 a similar modification was made in the paleontology course, and subsequently the change has been incorporated in three other courses. Students expressed some resistance, but it is expected this will subside with the passage of time.

Jack W. Travis
Geography/Geology
UW-Whitewater

UPDATE 8/80 AMOUNT $535

DESCRIPTORS
*Geology; *Library Resources
Library Skills

789012 A

TITLE: IMPROVEMENTS IN MICROBIOLOGY TEACHING AT THE INTRODUCTORY LEVEL

Most laboratory manuals presently being published are inadequate for the needs of introductory microbiology courses in the UW Centers. A manual designed for UW Centers students has the potential to improve courses significantly.

Faculty from two UW Centers were to collaborate on preparation of a laboratory manual for use in a one-semester introductory microbiology course and to prepare for publication a book entitled "Microbiology Experiments for Teachers." This book would be unique in its field since it would include types of information and methods for teachers never before available in one place. The participating faculty were to experiment together with new methods and techniques in the laboratories at UWC-Marshfield/Wood County and discuss the results from which new exercises in microbiology would be developed.

LATEST REPORT: At the beginning of the grant period, one of the collaborators resigned to take a position in another state. Since the two remaining collaborators are at the same campus, there was no need for the travel the grant was intended to support and, consequently, the funding was declined.

Work is progressing on the teacher's manual which is intended to accompany a student's manual that was revised earlier and has proved successful in the course. The material in the new teacher's manual is expected to increase motivation among Centers students to learn microbiology, an effect that was observable when the laboratory techniques geared to their special needs were introduced. INACTIVE.

Alan D. Parker
Biological Sciences
UWC Waukesha

UPDATE 8/83 AMOUNT $1,854

DESCRIPTORS
- *Biology
- Laboratory Sciences

789013 A

TITLE: INTERDISCIPLINARY PHYSICAL GEOGRAPHY LABORATORY MANUAL

Many students enrolled in the UWC-Baraboo "Weather and Climate" and "Physical Landforms" courses are intelligent and ambitious but are seriously handicapped in performing well in the course due to poor secondary school backgrounds, especially in mathematics and written communication skills. Therefore, it was proposed that a laboratory manual be prepared which actively combined background information in mathematics (needed to enhance understanding of geographical concepts) with traditional physical geography exercises. Likewise, where needed, information on written communication skills was to be included in the laboratory exercises, followed by the geographical information and problems. The approach was intended to emphasize the importance of mastery of material in a variety of subjects as a vehicle to enhanced understanding in other disciplines.

LATEST REPORT: The laboratory manual in physical geography consists of 20 chapters (exercises) which may be used in a two-semester sequence in physical geography with a focus on weather and climate in the first semester and on a study of landforms in the second semester. The manual, now divided into two parts (one for each semester) has been used for four years with UW Center System geography students at UWC-Baraboo, UWC-Medford, Oxford Federal Correction Institute, and UWC-Manitowoc. Part I ("Weather and Climate") was extensively revised in 1981.

The laboratory manual is available from the Project Director at cost.

Catherine H. Helgeland
Geography and Geology
UW Center System

UPDATE 5/82 AMOUNT $7,786

DESCRIPTORS
*Geography; *Interdisciplinary; *Basic Skills English Composition;
*Basic Skills Mathematics; *Adult Students
Laboratory Sciences

789014 A

TITLE: COMPUTER-PROGRAMMED INSTRUCTION IN ELEMENTS OF GRAMMAR FOR STUDENTS WITH REMEDIAL PROBLEMS IN WRITING

This project, an adjunct to the tutorial program in remedial composition now operating in the writing clinic at UW-Oshkosh, was designed to give students an understanding of elementary grammatical concepts. The project called for development of a program for computerized instruction in essential principles of descriptive grammar: 1) subjects and predicates, 2) verbs and verbals, (3) substantives and modifiers, 4) phrases and subordinate clauses, and 5) conjunctions. The program would offer one twenty-minute lesson in each of these areas, emphasizing identification of pertinent grammatical principles and sequenced drill. The computer programs would relieve student tutors and composition instructors of the burden of technical explanations of basic concepts. The time thus saved could be used to instruct the student in those advanced principles of English composition--particularly the construction of a variety of intelligible sentence patterns--appropriate to a college-level curriculum.

LATEST REPORT: The program was completed on schedule, but successful, consistent use by students was hampered by technical problems and the cost of computer service has idled the program. However, the program was judged to be well designed and potentially effective by the program development center and by those students who were fortunate enough to have access to the program when it was running well.

The project has received some national publicity, and the five units of the program are likely to have value wherever there is need for instruction in basic written English. Computer printouts of the program are available at cost. INACTIVE.

Douglas Kilday
English
UW-Oshkosh

UPDATE 8/85 AMOUNT $5,550

DESCRIPTORS
*Basic Skills English Composition
Autotutorial

789015 A

# TITLE: COMPUTER AIDED INSTRUCTION IN MATH AND ENGLISH IN PARKSIDE'S COLLEGIATE SKILLS PROGRAM

This project was to evaluate the effectiveness of computer-aided instruction (CAI) in teaching two of the basic skills--English composition and mathematics. The project would draw on the following capabilities of CAI: individualization, interaction, self-pacing, and recording and analysis of responses.

LATEST REPORT: In the application of English composition, basic sentence structure is approached through clause analysis of sentence types providing the framework for instructing the student in usage, mechanics, and stylistics. The program is intended for diagnosis, for instruction in weak areas, and as a supplement to remedial composition courses. In the application to mathematics, the program employs the Basic computer language and thus has the capacity for selection of problems. After the student is led through the problem step-by-step, a variety of approaches is employed in the presentation of additional problems, and, when necessary, the student is directed to review earlier lessons.

The program has been tested successfully on a variety of audiences, including junior high school students as well as students in the composition preparation course. In Fall 1979, it became part of a regular program. The English materials are on the instructional mode of the Hewlett-Packard 2000.

The computer programs for both basic skills English composition and basic skills mathematics have been revised and adapted to the Apple II computers. Students who have special problems in mathematics are directed to the Learning Lab where they may review and practice special mathematics skills by running some computer program(s). The enrollment in these classes is too large for the number of Apple II computers available at this time. Any campus in the UW System may get copies of the programs by sending two 5-1/4" disks to the Project Director.

While some of the English programs have been revised and adapted to the Apple II, many of the basic concepts used in these programs have been found in commercial software. However, since the tutorial style of the original programs lends itself to a programmed text format, plans are now being made to develop such a text.

Samuel R. Filippone
Mathematics/Science Division
UW-Parkside

UPDATE 8/85 AMOUNT $11,880

DESCRIPTORS
*Basic Skills English Composition; *Basic Skills Mathematics
Computer Autotutorial

789016 A

# TITLE: BASIC MATHEMATICS SKILLS REVISITED

The Mathematics Department at UW-Platteville has been giving a computational skills test for several semesters to students enrolled in four elementary college mathematics courses. Students should be able to pass this test with 80% proficiency, but in Fall 1977, 57% of the students taking the test failed to achieve this level. These students clearly lack basic skills in fundamental operations with whole numbers, fractions, decimals, percents, and signed numbers and need upgrading before they can do college level work.

LATEST REPORT: Six forms of a basic skills test and supporting written lecture materials on fundamental mathematics skills were prepared. It was intended that the students would complete the basic skills requirement early in the semester so that these skills would help them in their mathematics course; however, many students who did not "pass" the basic skills test during the first three or four weeks of class waited until late in the semester to work on it. The faculty members involved found that the information gained from the tests helped them in counseling the students and gave them information about the students' abilities in basic skills early enough in the semester to be of help.

Base data for grades, failure rates and withdrawal rates came from the same four courses as they were given in 1976-77 and 1977-78. The differences were not statistically significant, although the students did increase their competence during the project. Insight into the nature of students was gained: those who score the lowest lack sufficient motivation to alleviate deficiencies and need an extended period of time, reinforced by the stimulus of a requirement, to work on their basic skills. Students who need a brief review of basic skills can do it on their own if review materials are available.

The materials prepared through this project are now used by Special Services, which addresses the needs of students with mathematics and other skills deficiencies. INACTIVE.

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|---|---|
| Milton Mitchell<br>Mathematics<br>UW-Platteville | Fredric Tufte<br>Mathematics<br>UW-Platteville |
| UPDATE 8/80 | AMOUNT $9,862 |

DESCRIPTORS

*Basic Skills Mathematics
Laboratory Basic Skills; Modular Instruction; Peer Teaching; Testing

789017 A

TITLE: A MATH LAB APPROACH TO TEACHING BASIC SKILLS IN MATHEMATICS

The problem of students entering college with inadequate mathematics skills is not new. The problem had become so acute both in numbers of students affected and in the degree of inadequacy that a new approach was necessary. Many students entering the basic algebra course were not completing it or were barely completing it without being prepared for later mathematics courses. A large group of students needed arithmetic skills before taking basic algebra.

The purpose of the proposal was to plan, develop, and run during the academic year 1978-79 a pilot project using a math lab-centered system to teach arithmetic through basic algebra. The system would use student self-study, workbooks, and other materials heavily supplemented by personal contact with faculty and student assistants in the mathematics laboratory.

LATEST REPORT: The mathematics laboratory system was initiated in Fall 1978 and was staffed by one instructor and two peer teachers per section of 35-50 students. Experience showed that the sections were too large to allow the personal contact that was an important aspect of the project. Many students did not complete the course during the first semester, and when that tendency was observed in other students in the second semester, a minimum progress requirement was imposed, in part to overcome the crowded conditions that resulted from the carry-over students. Continuation of the program hinged on available funding.

The mathematics laboratory approach seems satisfactory in Math 040, the pre-algebra course; however, the lecture-discussion approach seems preferable for Math 141, the basic algebra course. A universal success of the project was the use of peer teachers, who were very effective in working with the freshmen. INACTIVE.

Gary Klatt
Mathematics
UW-Whitewater

UPDATE 8/83 AMOUNT $17,100

DESCRIPTORS
*Basic Skills Mathematics
Laboratory Basic Skills; Autotutorial; Peer Teaching

789018 B

TITLE: WORKSHOP FOR IMPROVEMENT OF INSTRUCTION IN GENERAL EDUCATION ASTRONOMY COURSES

There has been a rapid growth in enrollment in general education courses in astronomy. In many instances faculty from allied areas, usually physics, have been asked to teach these courses. The project presented a two-week workshop to enhance the knowledge of recent developments in the field of astronomy for sixteen UW System faculty members who are involved in the teaching of general education astronomy courses.

LATEST REPORT: The workshop was conducted at UW-Madison late in Summer 1978. Lecture-discussion sessions on contemporary topics in astronomy were presented by professional astronomers. Participants were oriented to the various forms of assistance available commercially and at UW-Madison. In addition, seminars on the teaching of astronomy as a general education course were included and some instructional materials were produced by the participants for use in such courses. A poll taken at the end of the workshop indicated that the two-week session had been well worthwhile.

Adverse weather forced cancellation of a January meeting of the participants, and an alternative date agreeable to a majority could not be arranged. It is expected that another session will be held when the area professional society next meets in Madison. Between such meetings an informal newsletter will be circulated among the participants.

Physics teachers continue to be in touch through area professional meetings and an informal communications network within the UW System. INACTIVE.

| | |
|---|---|
| Robert C. Bless<br>Astronomy<br>UW-Madison | Frank D. Stekel<br>Physics<br>UW-Whitewater |
| UPDATE 8/85 | AMOUNT $12,644 |

DESCRIPTORS

*Faculty Development; *Astronomy
Faculty Development

789019 B

TITLE: DEVELOPMENT OF WRITING SAMPLE TESTS AND RELIABLE EVALUATION PROCEDURES

While college entrance skills have measurably declined across the nation, the problem of how to deliver appropriate, effective instruction has become increasingly complicated. Accurate placement and diagnosis are critically needed in individualizing English composition instruction. The cooperatively designed Wisconsin English Placement Test was a first step in solving the problem. The next step was to develop writing sample tests and reliable evaluation procedures. UW-Milwaukee, UW-Madison, and UW-Parkside planned to participate in the development and validation of a pool of writing performance test items for secure use on campuses other than those used for tryout.

LATEST REPORT: In spite of a number of personnel, financial, and scheduling problems, this project developed twelve writing sample tests with student and administrators' directions. In addition, three methods of essay evaluation were trial tested: holistic, analytic, and combined (diagnostic).

The holistic approach proved superior in interrater reliability and in correlation of essay ratings with Wisconsin English Placement Test scores. The findings indicate that it is neither practical nor necessary to perfect additional optional methods of evaluating essays in the statewide placement testing program in English. The holistic method is recommended for exclusive adoption.

To oversee the installation of holistic procedures, the Educational Testing Service of Princeton might be consulted. Their expertise would aid in training a rotating team of English faculty and staff members from participating campuses. Besides evaluating statewide essay tests, this Wisconsin English evaluation team might select and update the test annually, determine data retrieval and reporting needs, and act as liaison among teachers, testing personnel, and administrators throughout the System. INACTIVE.

Virginia R. Bahe
Writing Laboratory and English
UW-Milwaukee

UPDATE 8/78 AMOUNT $25,000

DESCRIPTORS
- *Basic Skills English Composition
- Testing

789020 B

TITLE: SYSTEMWIDE BIBLIOGRAPHIC INSTRUCTION FOR WOMEN'S STUDIES

It is a commonplace among faculty and librarians that materials in the field of Women's Studies present unique problems to the undergraduate: a) they are scattered across the range of disciplines; and b) they are particularly difficult to access through the standard abstracts, indices, subject headings, and journals used by researchers in more traditional disciplines. Further, introductory courses in Women's Studies are frequently interdisciplinary in approach, often combining materials from the humanities and social sciences.

LATEST REPORT: The original conceptualization and scripting for bibliographical instruction materials in Women's Studies were developed at UW-Madison, while technical details were handled at UW-Stout. "Where Are the Women? Resources for Women's Studies," a slide/tape presentation, has been tested and demonstrated at many locations throughout the University of Wisconsin System and shown at national, regional, and state conferences in Wisconsin and other states. The intended audience includes students taking Women's Studies courses, instructors of Women's Studies courses, reference librarians, instructional librarians involved in assisting with materials for women-related courses, and community groups.

The designer of the project sees the slide/tape presentations being used in Women's Studies courses throughout the UW System, in presentations by the UW Women's Studies Librarian, for in-service librarians' workshops, and for community groups with an interest in Women's Studies. The modules are currently available for use by UW System librarians, faculty, and other groups through the Interlibrary Loan Department of the Karrmann Library at UW-Platteville.

Susan Searing
UW System Librarian for Women's Studies
UW-Madison

UPDATE 8/85 AMOUNT $7,199

DESCRIPTORS
*Women's Studies; *Library Resources
Library Skills; Audio Visual Multimedia

789021 S

TITLE: RESOLVING MATH ANXIETY: A PROPOSAL

Mathematics is a discipline essential to mastering other kinds of subject matter within the university curriculum. Students who avoid mathematics at the university level severely limit their career opportunities and also deprive themselves of knowledge which can be helpful to them as consumers. There is considerable evidence that a great number of students avoid university mathematics courses or fail to learn up to their ability levels because of anxiety about mathematics.

This project was designed to improve the quality of learning basic mathematics skills by students at three campuses. The project was to include a thorough literature search, a survey of math anxiety levels and preferred styles of learning among students in basic mathematics courses, and an experiment testing to see whether math anxieties are reduced when the anxious students are taught using tactics designed for their preferred learning styles.

LATEST REPORT: Since no correlation was found between preferred learning styles and anxiety levels, a different tactic was adopted and experiments were conducted in an introductory class at UW-Oshkosh and in an intermediate class at UW-Green Bay. At UW-Oshkosh, advanced students tutored the anxious class members during the class period regularly reserved for working on assignments. At UW-Green Bay, some members of the class tutored their fellow students during small group sessions. Scheduling conflicts forced cancellation of the experiment at UW Center-Fox Valley.

The efforts did not produce significantly different results in the classes, nor were there significant differences between the control and experimental groups in terms of improved attitude or achievement. However, the experimental system has been adopted as the standard operation because the math instructors involved in the trial preferred the new methods since they provided better feedback on the students' difficulties and the students displayed more enthusiasm in the trial environment. INACTIVE.

Stan Rickert
Skills Learning Program
UW-Green Bay

UPDATE 5/82 AMOUNT $13,987

DESCRIPTORS
*Basic Skills Mathematics
Cognitive Style; Peer Teaching

789022 S

TITLE: A PROJECT TO COORDINATE TEACHING IMPROVEMENT ACTIVITIES FOR GRADUATE TEACHING ASSISTANTS IN THE DOCTORAL CLUSTER

Faculty and administrators from UW-Milwaukee and UW-Madison proposed to join resources to foster improved instruction by graduate assistants. The program would 1) survey departments and schools to determine current practices of TA training and supervision on the two campuses; 2) identify areas where an exchange of ideas, methods, and materials would prove useful; 3) plan a conference that would facilitate this exchange; and 4) make plans for continuing education.

LATEST REPORT: Sixty-five persons representing thirty-nine departments, including department chairpersons, teaching assistant coordinators, administrators, teaching assistants, lecturers, and concerned faculty, met at an all-day conference on May 21, 1979 to focus on specific issues and to explore future activities. As a result, workshops on TA training were held on both campuses in April, 1980. At UW-Madison a collection of teaching aids has been housed in the laboratory for recorded instruction. Workshops for faculty have taken place at both campuses.

At UW-Milwaukee, responsibility for graduate teaching assistant orientation and training has been assumed by the Center for the Improvement of Instruction (See UTIG 812024 C). Campus-wide orientation is conducted on two days during the registration week in the fall and includes training workshops in discussion and lecture techniques. A panel discussion led by experienced TAs has been especially popular. Over 150 TAs attended in 1982. The program is designed to complement departmental orientation and the Center assists individual departments, colleges, and schools in planning and conducting their programs. In the last year new TA training programs were developed in the Schools of Nursing and Allied Health Professions.

During the academic year, the Center conducts teaching improvement workshops which are open to all instructional staff, including TAs, and shares its printed and videotape resources with those interested in improving their teaching.

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|---|---|
| Anthony A. Ciccone<br>French<br>UW-Milwaukee | Blair Mathews<br>Assistant Dean of Students<br>UW-Madison |
| UPDATE 8/83 | AMOUNT $7,500 |

DESCRIPTORS
*Teaching Assistant Training
Teaching Assistant Training; Audio Visual TV Taped

# GRANTS AWARDED

## 1979 - 80

790001 A

TITLE: DEVELOPMENTAL READING ACTIVITY MODULES

The project was to develop four activity modules for a required undergraduate course titled "Teaching Reading in the Elementary School." Each module was a self-contained kit that included a review of literature concerning the module topic as well as correlated activities designed to enhance student understanding and to stimulate critical reasoning. The four module titles are: 1) Worded Recognition, 2) An Introduction to Reading Readiness, 3) Reading Comprehension and 4) Reading in the Content Areas. Evaluations were to be made by a faculty committee and the students.

LATEST REPORT: Three of the four modules were used in one section of the target class during the 1979-80 academic year and student response was generally positive. Beginning with Fall 1980, all four modules will be incorporated into one course section.

The modules have proven to be an effective means for introducing basic information regarding module topics. In addition, the open-ended nature of many of the module activities encourages student discussion. Suggestions by both colleagues and students who complete the modules have been considered and occasionally modification in the modules have been and will continue to be made.

Copies of the four modules are available to others in the System from the Project Directors.

Ronald Mortaloni
Elementary Education
UW-Eau Claire

UPDATE 8/81 AMOUNT $2,754

DESCRIPTORS
*Elementary Education; *Teacher Education
Modular Instruction

790002 A

TITLE: A MODULAR APPROACH TO BUSINESS AND ECONOMICS RESEARCH AND COMMUNICATION

To develop the student's research and problem-solving capabilities, the School of Business Administration requires a unique sophomore level course, "Business and Economics Research and Communication." Because the course combines in a research methodology framework a number of normally disparate topics such as library use, and statistical and computational techniques, a unified set of instructional materials did not exist. The purpose of this project was to develop a set of instructional materials in modular form to enhance instruction.

LATEST REPORT: Modules were developed for: I) Statistical review and instruction to IDA; II) Introduction to research in business and economics; III) Secondary data and IDA data entry; IV) Primary data; V) Non-parametric statistics; VI) Regression and correlation; VII) Communicating research results.

Each module contains instructional objectives, text, and exercises. An exercise manual containing solutions was also developed. Modules involving data handling and analysis emphasize the use of Interactive Data Analysis (IDA), a system of interactive computer programs.

The modular materials were implemented for student use in Spring 1980. The response of both teaching faculty and students has been highly favorable.

Based on expected enrollment, about 400 students per year will use the modules at UW-La Crosse. These modules may be employed in piecemeal form in other courses at UW-La Crosse or System institutions.

William E. Wehrs
Economics and Finance
UW-La Crosse

UPDATE 8/81 AMOUNT $12,897

DESCRIPTORS
*Business, *Economics
Modular Instruction; Undergraduate Research; Computer Autotutorial

790003 A

# TITLE: COMPUTERIZED ENGINEERING PROFESSIONAL TRAINING AND EVALUATION REVIEW (CEPTER)

The College of Engineering seeks to provide its students with the professional skills needed to solve or design solutions for a wide variety of problems. Justifiably, industry and society cannot risk the possible dangers or costs of having student engineers "practice" problem solving in the real world.

The project proposed the use of specially labeled terminals and CRT display screen in conjunction with microfiche projectors, to give students an opportunity to practice designing solutions to problems. The teaching enhancement, Computerized Engineering Professional Training and Evaluation Review (CEPTER), is capable of presenting cases in any area of engineering. The content of the cases has been developed by committees of professors and expert engineers and then entered into the computer.

LATEST REPORT: Effective software was developed and a case was prepared and entered into the computer for use in August 1980. After a demonstration at the 100th anniversary conference of the American Society of Mechanical Engineers, the project was ready for use in the Fall 1980 classes.

The results can be used by anyone interested in such education. A computer terminal is necessary. The prospective user can call the Madison Academic Computing Center to be put on line to the WITS program.

Papers have been presented at the 89th annual conference of the American Society for Engineering Education, June 21-25, 1981, Los Angeles, California, and the International Symposium on Engineering Education, Austria, September 16-18, 1981. The project directors are also co-authors of "Professional Engineering Education in the Classroom," Engineering Education, 72: 8 (May, 1982), 781-7.

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|---|---|
| Gerald Nadler<br>Industrial Engineering<br>UW-Madison | Ali A. Seireg<br>Mechanical Engineering<br>UW-Madison |
| UPDATE 8/83 | AMOUNT $10,359 |

DESCRIPTORS
*Engineering
Computer Problem Solving; Models

790004 A

TITLE: DIAGNOSTIC FEEDBACK IN A LARGE INTRODUCTORY CHILD DEVELOPMENT COURSE

This proposal was to implement a modified form of the Teaching Information Processing System (TIPS) in a large introductory course. Over 500 students from family resources and consumer sciences, nursing, and the allied health fields enroll each semester in the course, "Development of the Young Child." the modification has three distinctive features. First, ten quiz questions are presented with a slide projector and students answer on their own note paper, eliminating the cost in time and paper of handing out exams. Second, rather than have the students' responses scored by computer, which entails some delay, the correct responses are presented, students score their own responses, and diagnostic sheets are handed out to point students to relevant sections of the text. Third, a randomly-selected group of students is asked to turn in their responses for scoring by the instructor, and their average on the quiz is announced to the class so that all can judge their relative performance. The sample is adequate for item analyses for systematic evaluation of the pool of test items.

LATEST REPORT: Questions were presented to the class before each exam, and the students believed it was helpful to see what kinds of questions could be expected. The original intent had been to put the questions on a computer file, but acquisition and installation of new equipment in testing and evaluation services precluded this, so the file has been maintained manually so far.

Another aspect of this project was analysis of student responses to multiple choice questions based on the text and others based solely on lectures. The results were used to counsel students about study techniques, particularly when the analysis revealed a noticeable difference in performance between the two types of questions.

W. Patrick Dickson
Child and Family Studies
UW-Madison

UPDATE 8/81 AMOUNT $4,905

DESCRIPTORS
*Child Development
Testing

790005 A

TITLE: AN APPROACH TO CLINICAL PRACTICE FOR NURSING STUDENTS IN A WELLNESS ORIENTED SYSTEM

Undergraduate nursing students at the University of Wisconsin-Milwaukee are learning the theoretical foundations of health-promoting nursing care in an integrated curriculum; however, opportunities to practice the theoretical concepts studies have been limited, due to the illness orientation of the present health care delivery system. A nursing center was established to provide students the opportunity to practice nursing skills with a well population. Under faculty guidance, nursing students conduct activities such as support groups, group education, preventive screening programs, health classes, exercise classes, stress reduction seminars, and other projects to promote or maintain health. A secondary purpose has been to demonstrate nursing practice to the community and to provide health services.

Evaluations have revealed a significant increase in patient/client health knowledge and in attitude toward practicing positive health behaviors after participation in a nursing center activity. The students meet objectives related to crisis intervention, group leadership, and community health.

LATEST REPORT: The program has been very successful. Operational funds were obtained from the Faye McBeath Foundation for three years. During 1982-83 approximately 396 students participated. All of them had contact with the consumers and the experience had a positive influence on their clinical nursing performance. Over 24 programs were offered and 3,000 consumers served. In June, 1981, a national conference was sponsored for over 100 schools of nursing who are in various phases of developing similar activities.

Future goals include extension of outreach services, the addition of students, incorporating of faculty research, increased programming, and consultations with other schools of nursing.

Susan Riesch
School of Nursing
UW-Milwaukee

Emma Felder
School of Nursing
UW-Milwaukee

Carol Stauder
School of Nursing
UW-Milwaukee

UPDATE 8/83

AMOUNT $15,515

DESCRIPTORS
*Nursing
Clinical Training

790006 A

TITLE: UTILIZING THE "GUIDED DESIGN" APPROACH TO FACILITATE TEACHING TWO LOW ENROLLMENT THREE-CREDIT COURSES AS A SINGLE THREE-CREDIT COURSE AT UW-OSHKOSH

This proposal addressed the problem of how to handle the increasing cost of courses at UW-Oshkosh, Speech 96-441, "Teaching Speech to Secondary Students," and Speech 96-447, "Speech in the Elementary Classroom." While it is necessary to offer these courses regularly because each is a requirement in a teacher certification program, declining enrollment led to this proposal to combine the two into a single methods course for both secondary and elementary education majors. This step is made feasible by the development of "Guided Design" materials for elementary education students to complement materials already prepared and in use for secondary education students.

LATEST REPORT: The combined course was initiated in Fall 1979 and will be used again during Spring 1981. Student reaction has been generally positive. The learning process in "Guided Design" revolves around students' efforts to devise solutions for a series of increasingly complex open-ended problems. Usually there is no single correct answer to a problem, and each requires students to apply the information and skills acquired in the course in order to develop a feasible solution. The materials prepared in this program involve a hypothetical elementary teacher facing one problem that involves exerting leadership in a school-wide speech arts program and a second problem in developing a communication program to combat school vandalism.

Student participation in both the oral and written work was of high quality. The combined course was offered in Spring 1982 with an enrollment of 17 and Spring 1983 with an enrollment of 10. This project has, in effect, "saved" the methods course.

Materials are available to interested System faculty. A presentation on this project was made to the National Convention of the Speech Communication Association in San Antonio, in November, 1979. The Project Director is hoping to conduct a workshop on "Guided Design" at the Wisconsin Communication Association Convention in 1981.

S. Clay Willmington
Speech/Elementary and Secondary Education
UW-Oshkosh

UPDATE 8/83 AMOUNT $3,286

DESCRIPTORS
*Teacher Education; *Elementary Education
Mastery Learning

790007 A

TITLE: INTEGRATING ACADEMIC AND FIELD EXPERIENCES IN TWO BEHAVIORAL SCIENCE PRACTICA

Two new interdisciplinary courses, "Community Volunteerism" and "Behavioral Science Practicum," integrate field experience with academic learning. Historically, the courses have required students to find their own faculty sponsors and to work with little faculty or student contact; these new courses were designed to ease the students' involvement in field placements and to provide a stronger academic component than existed in the program. The participating faculty surveyed local social service agencies for interest in student field placements and willingness to participate in the practica. Prospective enrollees are to be provided with information by means of a file of agency opportunities, a videotape of the practicum in action, and a small pamphlet, all of which have been developed during the course of this project.

LATEST REPORT: The program was implemented in Spring 1980 with the placement of students in 19 of the 50 agencies that had indicated a willingness to participate. Student response was positive, as were the evaluations made by the Project Director and the supervisors at the agencies. Anonymous course evaluations from the students supported this conclusion. The only disappointment regarding the "Community Volunteerism" course was a reluctance on the part of the majority of the students to question guest speakers and to discuss issues of volunteerism.

The courses were offered in both semesters 1980-81 to determine the extent of interest and gather evaluations.

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|---|---|
| Ann Gurnack<br>Behavioral Science<br>UW-Parkside | David R. Beach<br>Psychology<br>UW-Parkside |
| UPDATE 8/83 | AMOUNT $7,809 |

DESCRIPTORS

*Social Sciences; *Sociology; *Psychology; *Interdisciplinary Practica

790008 A

TITLE: A GENERAL INTERDISCIPLINARY SCIENCE COURSE FOR NON-MAJORS

Elementary science courses are designed for students who will be majoring in the science. Non-majors in such courses tend to show a higher drop-out rate and poorer performance than the future majors. The solution developed by this project is a three credit multi-disciplinary lecture tailored to meet the needs of non-majors by introducing them to physics, chemistry, geology, and biology, and some general issues in science. Goals of this course were to enable the student to make an informed selection of courses for the balance of the general education requirement and to acquire the foundation for a lifelong interest in contemporary science.

LATEST REPORT: A slide-tape production was designed to introduce the course, new demonstrations were created, and the lectures were slanted to the practical applications of science. Unfortunately, enrollment was discouragingly small. The Project Directors speculated that this lack of interest might be due to 1) competition from courses already available such as modules in life or earth sciences or 2) the survey course having passed the peak of its appeal, with students favoring instead courses which offer more immediate, concrete returns. INACTIVE.

Feredoon Behroozi
Physics
UW-Parkside

J. Kenneth Cashion
Chemistry
UW-Parkside

James H. Shea
Earth Science
UW-Parkside

Edward P. Wallen
Life Science
UW-Parkside

UPDATE 8/83

AMOUNT $11,834

DESCRIPTORS
*Interdisciplinary; *Physics; *Geology; *Biology; *Chemistry
Team Teaching

790009 A

TITLE: DEVELOPMENT OF A COMMUNICATION COMPETENCE ASSESSMENT INSTRUMENT FOR PARKSIDE'S SKILLS PROGRAM

While the collegiate skills program at UW-Parkside identified several basic skills that students should possess, no assessment instrument for speaking and listening skills was available. The Speech Communication Association's criteria were followed in the creation and testing of the assessment instrument, the Communication Competency Assessment Instrument (CCAI). Inter-rater reliability was high.

The CCAI asks students to give a short speech, listen to a videotaped representation of a class lecture, and answer questions concerning the student's college experiences. Raters evaluate skills including effective listening; use of appropriate words, grammar, pronunciation, voice, and nonverbal signs; identifying main ideas, facts, opinions, and intents in oral messages; expressing ideas clearly, concisely, with evidence and appropriate organization; asking and answering questions effectively; giving accurate directions; summarizing messages; describing others' viewpoints and differences in opinion; expressing feelings; and performing social rituals.

LATEST REPORT: The revised instrument consists of 19 assessments, reduced from the original 57. This has simplified test administration (one-half hour per student) and increased cost efficiency (approx. $0.40 per student plus rating time). The CCAI (consisting of a rating manual, videotape, and rating sheets) can be ordered from the Speech Communication Association (5105 Backlick Road, Annandale, VA 22003). It can be used in college settings for purposes of placement, screening, course exemption, research, minimal competence testing, and teacher certification testing. A detailed description of the instrument can be found in the articles, "Assessing Speaking and Listening Competence at the College Level: The Communication Competency Assessment Instrument," (Communication Education, 31 (1982), 19-32), "Validity of the Communication Competency Assessment Instrument," (Communication Monographs, 52 (1985), in press), and in professional papers available from the author.

Rebecca B. Rubin
School of Speech Communication
Kent State University
Kent, OH 44242

UPDATE 8/85 Amount $5,239

DESCRIPTORS
*Basic Skills Oral Communication; *Communication Arts
Testing

790010 A

TITLE: A BUSTIPS FOR THE UW SYSTEM--A COMPUTER-BASED AID FOR TEACHING FIRST YEAR ACCOUNTING

Business departments are encountering increasing numbers of students in their introductory accounting courses. The objectives of this project were to increase the efficiency of instruction in these large classes and to provide assistance to marginal students who might otherwise become part of the already high attrition problem. A computer-based program, Teaching Information Processing System (TIPS), was to be used to achieve these goals.

This project allowed for development of the software necessary to apply TIPS to introductory accounting. This process included identification of subject matter units, identification of concept groups for each unit, development of a bank of questions for each unit, and development of appropriate messages for each question.

LATEST REPORT: The system was implemented in Fall 1979, and student response has been enthusiastic although some complain a little about the time involved. Several accounting instructors use the system. Some require its use by students and collect the computer hard copy. Other instructors make it optional or require its use when a student receives a low examination grade. Some students use the system as a means of studying for examinations.

In addition to refining the edit program, the Project Director intends to apply the TIPS approach to courses in cost accounting and possibly in tax. In January, 1980 the Project Director made a presentation on the program to approximately sixty faculty at the local workshop on computer applications in the classrooms.

The program is designed to run on a Hewlett-Packard computer and has been used at UW-Whitewater as well as UW-River Falls. It is available to anyone who has sufficient interest to transfer it to their system. Purchase of a new computer at UW-Whitewater will require adaptation of the program.

Don C. Aabel
Business Administration
UW-River Falls

UPDATE 8/85 AMOUNT $3,550

DESCRIPTORS
*Accounting
Computer Managed Instruction

790011 A

# TITLE: THE DEVELOPMENT OF A GENERAL MICROBIOLOGY LABORATORY MANUAL IN A COMPETENCY-BASED FORMAT FOR STUDENTS IN FOOD-RELATED MAJORS

The rapidly increasing emphasis on institutional feeding, restaurant dining, and the fast-food business has served to highlight the importance of microbiology in the educational programs of those who will be responsible for the quality of preparation and handling of foods. The pressures bear heavily on instruction in this science area, in which students are expected to become proficient in microbiology and to function independently in the laboratory after taking just one undergraduate course.

The thrust of this proposal was to prepare a laboratory manual in general microbiology centered on a competency-based format. The product developed in this project was to include as many quantitative experiments as possible, such as determining percent kill statistics utilizing certain environmental factors; dealing with specific populations of microorganisms; and analyzing food, water, and environmental samples. A jury of experts were to provide third party evaluations of the work in process and upon completion.

LATEST REPORT: Each student enrolled in the course during 1979-80 was provided with a laboratory manual. Three times during each semester they were asked to evaluate the learning experiences and their mastery of the competencies. Because the students accepted the manual well and benefited from its use, it was revised for use during Summer 1980, again for the 1980-81 academic year, and it has just been revised a third time. The manual will be edited annually to incorporate rate changes based on experience in the class and to incorporate new methods and procedures as they develop in food-related microbiology. The manual is available to other interested faculty.

The manual continues to be used in the general microbiology classes at UW-Stout. It is revised and updated every two years. A similar competency-based lab manual for use in 308-506, "Food Microbiology," will be developed during Summer 1985.

George H. Nelson
Biology
UW-Stout

UPDATE 8/85 AMOUNT $6,255

DESCRIPTORS
*Biology
Laboratory Sciences; Competency Based Instruction

790012 A

TITLE: EVALUATION AND COURSE DEVELOPMENT FOR COMPETENCY-BASED WRITING MODULES

The project responded to the need for adequate written communication skills for nontraditional students who take off-campus competency-based courses. Success in such courses is frequently dependent on the student's ability to write clear, precise English--the student's chief means of communication with the professor. Although these students may have completed at some time in the past a college course in composition, they may not have retained all of the skills necessary to express themselves clearly in writing.

The UW-Superior Center for Continuing Education developed a preliminary instrument, or writing module, for testing the nontraditional student's writing ability and planned to develop methodology for providing necessary individualized follow-through instruction in an off-campus competency-based format.

Writing modules were to be examined and evaluated, and after consultation with faculty who offer competency-based courses, a standardized evaluation instrument and self-paced course in basic writing competence were to be developed.

LATEST REPORT: This effort to assess nontraditional student writing levels has had an unanticipated outcome: the level of performance has been so high, there is not enough material available to develop the remedial modules. The independent consultant has concurred in this evaluation. Since the exercises are voluntary, it is possible those who feel they are poorly prepared or those who fear the consequences do not participate. There is no evidence at present to support either of these conjectures. INACTIVE.

| | |
|---|---|
| Leo Hertzel<br>Language/Literature<br>UW-Superior | Carolyn Petroske<br>Center for Continuing Education<br>UW-Superior |
| UPDATE 8/85 | AMOUNT $5,623 |

DESCRIPTORS
*Basic Skills English Composition; *Adult Students
Competency Based Instruction

790013 A

TITLE: GENETICS: BIOLOGICAL, PSYCHOLOGICAL, AND PHILOSOPHICAL IMPLICATIONS

As a consequence of recent advances in genetics and reproductive physiology, serious issues and questions have arisen. Such concerns fall at the interface of the disciplines represented in this project (biology, philosophy, psychology). To respond to the need for information and synthesis, instructors from these disciplines developed and taught a new multidisciplinary course which examined the impact of recent biological technologies. Emphasis was placed on understanding of the processes and implications of genetic screening, manipulation, and engineering. The course also addressed the heredity/environment controversy in light of sociobiological speculation. Enrollment was substantial--more than 65 students, many of whom were in medically related professions.

LATEST REPORT: The course was well received by the students, although they had some trouble integrating the material, particularly the biological concepts. There was also some problem with cross-listing the course and in equally dividing credit among the four instructors. In general, the Project Directors view their effort as a significant contribution to the academic program of the campus.

Plans for expansion include further revision of the present course and development of a second course concerned with sociobiology and the evolutionary aspects of behavior. A course entitled "The Biological Revolution: Sociobiology" is being offered during Fall 1981.

Robert Bermant
Psychology
UWC-Waukesha

John Knight
Philosophy
UWC-Waukesha

Eugene Braun
Biological Sciences
UWC-Waukesha

David Skryja
Biological Sciences
UWC-Waukesha

UPDATE 8/81

AMOUNT $7,263

DESCRIPTORS
*Interdisciplinary; *Biology; *Psychology, *Philosophy
Course Development

790014 A

TITLE: AN INTERDISCIPLINARY ENRICHMENT PROPOSAL FOR HISTORY AND ART SURVEY COURSES

Faculty from art and history planned an interdisciplinary enrichment program to improve four survey courses and to provide students with a clearer perception of the interrelations between the humanities and social sciences. A special need addressed in this project was that of faculty who constitute one member "departments" and consequently experience special time constraints in development of cooperative curriculum improvements across disciplinary lines. Material was developed for the portions of the two art and two history courses where an interdisciplinary approach was appropriate, Slides and/or other visual aids were selected to accompany lectures.

LATEST REPORT: Project Directors created a total of 380 slides and purchased seven filmstrips. In addition, they wrote six essays to provide historical background information for the art lectures: "Civilization," "Mesopotamian Architecture: Temples and Ziggurats," "The Greek City-State," "After The Fall of Rome--The Dark Ages," "Who Controlled Gothic Art--The Church, The King, or The People?" and "The Maya: The Other Pyramid Builders." Students in all the classes understood concepts more readily--in history, the visuals conveyed more than words and the students were more attentive, and in art, the broad view of social and political pressures made it easier for the students to draw parallels between the efforts of the artists and the events and traditions that shaped their art. After each session in which the new material was used, student response was solicited and it was very favorable.

The Project Directors are enthusiastic about the impact of these changes. They are looking into the interdisciplinary trading of lectures.

The material is available for use in the UW Centers.

| | |
|---|---|
| Jerry Bower<br>History<br>UWC-Richland | Marilyn Loft<br>Art<br>UWC-Richland |
| UPDATE 8/85 | AMOUNT $4,600 |

DESCRIPTORS

*Interdisciplinary; *Art; *History
Visual Slides; Visual Film Strips; Academic Program Revision

790015 A

TITLE: INSTRUCTIONAL MODULE ON THE CHANGING VOICE

Public school music teachers traditionally have found the instruction of the changing voice difficult, troublesome, and mystifying. Because the physical changes of early adolescence are so extreme, young voices require the careful attention of competent and understanding teachers knowledgeable about physical and psychological alterations.

This project sought to employ a self-instruction unit. Students view a taped lecture describing changing voice physiology and its accompanying psychological implications, then proceed to programmed instruction manuals and videotaped demonstrations.

LATEST REPORT: Five videotape demonstrations and four instruction booklets were used in the methods class, and at the end of the semester, the examination was identical to the final administered to the preceding class. Test results from students in the experimental class were superior. This individualized instruction allows these future teachers to absorb the materials and concepts over an extended period of time and at their own convenience.

The revised module is used in teacher training at SUNY Buffalo, Oberlin, Western Michigan University, and the University of North Carolina-Greensboro, as well as numerous Wisconsin public school systems. The Project Director has presented this module in 1982 at the National MENC meeting in Minneapolis, MN, and in 1983 at the state meeting of the Ohio-Kentucky music educators and at the county meeting in Louisville, KY. An article on the module ("From Uncertainty to Understanding: A New Approach to Instruction About the Changing Voice") was published in the Proceedings Research Symposium on the Male Adolescent Voice, Buffalo, NY: Music Department, State University of New York at Buffalo, 1984.

As a result of vocal questions arising from the development of this instructional module, the Project Director and Dr. Diane Bless of the Communicative Disorders Department were given a grant by the Spencer Foundation to investigate tessitural areas in the characteristic vocal ranges of boys experiencing the voice change. Results of this study are also published in the Buffalo Proceedings.

Anthony L. Barresi
Music
UW-Madison

UPDATE 8/81 AMOUNT $4,016

DESCRIPTORS

*Teacher Education; *Music
Audio Visual TV Taped; Autotutorial

790016 A

TITLE: COMPUTER-ASSISTED INSTRUCTION IN FRENCH: VERBS

The purpose of this project was to develop a cafeteria-type verb exercise in French that could be used for drill by French students at all levels. This program is an extension of the computerized vocabulary drill, using the language of the Hewlett-Packard Instructional Dialogue Facility, which had been developed for first-year French students. The program stores in the computer fifty French verbs in fourteen tenses and allows students to choose what they want to practice with computer assistance. The program allots the student three tries at giving a correct response and encourages the student in the drill activity. At the end of a lesson, the computer prints out the percentage of correct and incorrect responses. An advantage of using the computer for drill is that additional classroom time is available for conversation in the language and other kinds of practice.

The program has a built-in record keeping mechanism to allow evaluation of students' progress. Students at all levels are pre- and posttested to determine the effectiveness of the program.

LATEST REPORT: The computer presently has programs for all levels of French, second and third year Spanish, and some Norwegian and Italian vocabulary. Some German is available and more is being programmed.

The computer is now programmed for three kinds of exercises: vocabulary, verbs, and grammar.

The Computer Center staff and the Project Director are assisting with the adaptation of the UW-River Falls system for UW-Eau Claire. The program has also been adopted by one high school that uses a connection with the UW-River Falls computer.

A manual giving general information about these programs is available from the Project Director.

Sandra Soares
Modern Language
UW-River Falls

UPDATE 8/81 AMOUNT $5,550

DESCRIPTORS
*French
Computer Autotutorial

790017 A

TITLE: FIELD GEOLOGY IN THE BLACK HILLS: AN ALTERNATIVE TO TRADITIONAL SUMMER PROGRAMS IN EARTH SCIENCE FIELD METHODS

Currently, earth science students have only a few options whereby they can gain adequate training in earth science field methods. Geology 350, "Geological Field Methods," meeting on consecutive Saturdays during the fall, has provided one option. The course had a number of severe and unavoidable weaknesses, including lack of diversity and exposure in the local geology, the discontinuity inherent in having a week's lag between field days in a given area, the wear and pressure on the student from enrolling in a six-day school week, and problems with the weather and hunters in the field.

This proposal entailed the restructuring of the existing course to include a concentrated 12-day field experience in the Black Hills of South Dakota. This required a reconnaissance field trip to the Black Hills by the Project Director and purchase of safety equipment and needed field supplies.

LATEST REPORT: The revised course was conducted from August 27 to September 9, 1979. This constituted the course work except that the students were required to submit a final report before the end of the fall quarter.

The field trip was very successful. The students were able to do more detailed and sophisticated geology by applying each day's lessons immediately and building on the previous day's work. Without the distractions normally provided by other sources, the subject sustained the students' attention, and they developed a sense of teamwork. The availability of a wide variety of rock formations and types of rock allowed a broader discussion of geologic principles.

The course was so enthusiastically received and the students' performance so superior to that of past classes that the South Dakota experience will replace the previous format. The course was to be offered again in Fall 1981, but illness forced its cancellation. Since then UW-River Falls has developed a six week summer field course for the Black Hills which incorporates many of the exercises developed in this project.

William S. Cordua
Plant and Earth Science
UW-River Falls

UPDATE 8/83 AMOUNT $3,703

DESCRIPTORS
*Geology
Field Studies

790018 A

## TITLE: WRITING ANALYSIS EXERCISE

The Project Directors planned to devise a diagnostic writing activity for use in the first meetings of a college composition course which examines the full process of writing, from pre-writing through revision, in order to assess the individual instructional needs of students. The complete writing activity includes pre-writing, writing, revision, analysis; the subcomponents of the analysis include student description of his/her writing process, student diagnosis of his/her finished writing sample, and instructor diagnosis of the finished writing sample.

LATEST REPORT: The exercise was used in opening sessions of classes of college freshmen and high school seniors. Each student chose a subject from a list of five, drafted three paragraphs, and a day or two later revised the draft. The writer was asked to describe the writing process and analyze the composition, and the instructor analyzed each composition using a standard evaluative form. The surprising result was that the instructors' responses on the standard form varied 15-85 percentage points, which led to the conclusion that although teachers of writing recognize standards in common, their emphases of individual standards vary. Subsequent discussion of the exercise in class meetings and conferences demonstrated that its greatest value was its potential for clarifying an individual instructor's evaluative criteria. The writing exercise and its evaluation demands a considerable amount of the instructor's time, although this is well spent because it allows clarification of the instructor's criteria for good writing.

The test and evaluative form are both available to interested faculty upon request. While instructors other than the Project Director have not adopted the diagnostic writing activity, preferring instead to teach the writing process in discrete units as outlined in the composition texts used in the department, the exercise did prove valuable within the department in stimulating a thorough review of the composition curriculum. The result was a revised departmental syllabus, including a specification of criteria for evaluating writing illustrated with sample student essays.

James Demuth
English
UW-River Falls

Susan Steiner
English
UW-River Falls

UPDATE 8/83

AMOUNT $9,239

DESCRIPTORS
*Basic Skills English Composition
Testing

790019 B

# TITLE: THE DEVELOPMENT OF A VIDEOTAPE LIBRARY FOR STUDENT OBSERVATIONS IN MUSIC EDUCATION METHODS CLASSES AT UW-MILWAUKEE AND UW-MADISON

At UW-Milwaukee and UW-Madison, a combined total of over 110 music education majors annually enroll in music education methods courses designed to teach them basic pedagogy. A common ingredient of all of these courses has been student observation of a wide variety of school classes from kindergarten through twelfth grade.

In order to provide students with observations of diverse instructional and cultural settings not available to them through the present direct observation process, this project was to create a videotape library of K-12 classes in four classifications: elementary general music, secondary general music, choral music, and instrumental music. The tapes were to be duplicated for use as field observation substitutes in music education methods classes.

LATEST REPORT: Filming was done in actual music classes at sites carefully chosen to cover such cultural contexts as Latin-American, Black, inner-city, rural American Indian, small rural towns, upper middle class suburbs, metropolitan "blue-collar," mixed or "rainbow" and white ethnic. The selection of schools also reflected a wide variety of instructional patterns and types of facilities.

Evaluation of the project indicated that the use of videotapes increased student opportunities to view diverse ethnic populations and community settings to a significant degree. The project serves approximately one hundred and ten undergraduate students during each four-year period on the UW-Milwaukee and UW-Madison campuses. The tapes have been very helpful in redesigning more effective use of teaching and student time over the past few years.

William R. Schmid
Music
UW-Milwaukee

Gerard McKenna
Music
UW-Milwaukee

Eunice Boardman Meske
Music Education
UW-Madison

Gerald Olson
Music Education
UW-Madison

UPDATE 8/85

AMOUNT $12,616

DESCRIPTORS
*Teacher Education; *Music
Audio Visual TV Taped

790020 B

## TITLE: MAKING WOMEN ARTISTS KNOWN THROUGH ORAL HISTORY

This collaborative project involved students and faculty members in the creation and dissemination of a new body of knowledge on Wisconsin women artists in literary, visual, and performing media. Each of the Project Directors involved expanded her knowledge of oral history in order to give her students a sound introduction to a major tool for humanistic research. The taped interviews became part of the special collection on Wisconsin women artists established at the UW-Milwaukee library in 1978. In addition, a subject index for all the interviews in the collection served to locate the significant patterns in this body of information, which in turn provided the basis for an interpretive report on the contents.

LATEST REPORT: The interviewing process was a major feature of two very different courses--"Women as Creative Agents" at UW-Green Bay and "Women in History" at UW-Oshkosh. Students interviewed practicing women artists and shared the results of their research in class. The students felt that the interviewing experience was significant and were pleased at what they had learned in the interview. In one course the students indicated that the fact the interview was going to be evaluated by others besides the professor and placed on the permanent record was a powerful stimulus for them to do a good job. The Project Directors believe that the confidence and competence gained by the students are worth whatever difficulties may be encountered in the process of completing a preservable interview. The only disappointment the authors experienced was in not reaching larger numbers of students.

A detailed report has been sent to educators in women's studies and the arts throughout the UW System, and a brochure that describes the project for the benefit of students and artists who are potential subjects for interviews is available from the UW-Milwaukee Office of Women's Studies. The project, presently being considered as a model at Sonoma State College in California, was also mentioned in the Summer 1979 issue of Women's Studies Newsletter. Currently, additional interviews are awaiting judgment for inclusion in the archive.

Estella Lauter
Communication and the Arts
UW-Green Bay

Virginia Crane
History
UW-Oshkosh

Rachel I. Skalitzky
Women's Studies
UW-Milwaukee

UPDATE 8/85

AMOUNT $10,051

DESCRIPTORS
*Women's Studies; *Arts
Undergraduate Research

790021 A

TITLE: UTILIZING COLOR MICROFICHE FOR ANALYZING CHILDREN'S WORKS OF ART

This proposal was designed to facilitate learning alternatives for elementary education majors, minors, and/or art education students. Examples of two and three dimensional art works ranging from pre-school through sixth grade were categorized according to developmental stages; color slides and microfiche were processed; and a study guide was prepared to accompany the fiche.

LATEST REPORT: From 1,040 samples of children's art, a selection of 320 slides was prepared for use during the lectures. Each student was equipped with the newly designed work manual and set of microfiche reproductions of the slides. The students were very enthusiastic about this alternative approach, particularly about having the microfiche available for study.

The students' responses were very positive and as a result of this approach, they displayed increased visual awareness. Currently, the materials are being used with a different interpretation in an elementary art methods course. The Project Director hopes further that UW System educators will use the materials and compare results.

The author has received copyrights for the manual, the microfiche, and the color slides, which can be purchased by writing to him at UW-La Crosse.

| | |
|---|---|
| V. Dale Kendrick<br>Art<br>UW-La Crosse | Clair Rood<br>Audiovisual Services<br>UW-La Crosse |
| UPDATE 8/85 | AMOUNT $6,045 |

DESCRIPTORS
*Elementary education; *Teacher Education; *Art
Visual slides; Visual Microform

790022 A

## TITLE: A PROPOSAL FOR AN AUTOMATIC MONITORING SYSTEM IN THE TEACHING OF SIGHTSINGING

On the Madison campus, as with others in Wisconsin, sightsinging required of all music students has been taught as a class with 15 to 25 students per section. Instructors in these courses find classroom techniques inadequate since students singing as a group tend to follow the dominating voices of the stronger students, while students singing individually tend to waste the time of those who are not participating at the moment. Thus, students have often failed to obtain even a minimal grasp of sightsinging and are deprived of a most necessary expertise.

A proposed solution was an individual monitoring system utilizing a three-track tape recorder, which would not require that an instructor be present. The student records a melody, singing in synchronization with the same melody prerecorded by a synthesizer. The prerecorded sound is not heard while the student records his/her own voice. Later the student replays the tape, listening to the prerecorded melody and his/her voice simultaneously, thus providing immediate feedback regarding the accuracy of the sightsinging effort.

LATEST REPORT: The success of the project was significant. Student performance was considerably enhanced, and 82% of the students were positive in their assessment of its value to them. As for efficiency, the system could save approximately eight teaching hours a semester per class of 20 students.

The system was employed again in Fall 1980, with some changes. The location was moved to the wing containing practice rooms. Furthermore, more accurate methods of measuring errors were needed, and, at the suggestion of students, a slow as well as a performance tempo was to be employed. In addition, an effort was being made to obtain additional, but less expensive, equipment (the present tape recorder costs $1,600) so that the method can be used by other singing classes and could be adapted in the applied area for intonation of instruments.

The results of the project are available for distribution to other schools in the System.

Bruce Benward
Music
UW-Madison

UPDATE 8/81 AMOUNT $7,962

DESCRIPTORS
*Music; *Teacher Education
Audio Tape Recording; Autotutorial

790023 A

TITLE: LABORATORY COURSES IN CHEMICAL INSTRUMENTATION

A laboratory course in chemical instrumentation was to be developed to fulfill the following criteria: to provide adequate training in instrumentation for chemistry, biology, and other science students and to present experiments that use one or more instruments to solve or examine a problem. The laboratory course can accommodate 24-32 students per quarter with limited instrumentation and facilities, and is flexible enough to take into account students' previous training and experience or lack of experience in instrumentation. It was hoped that the course would foster cooperation between science departments and set a precedent for interdepartmental use of instrumentation.

LATEST REPORT: The new approach was tried in a two quarter junior chemistry laboratory course during Winter and Spring 1979-80. Experiments involved systems such as wines, organic chemicals, water, soil, plants and fish, and methods such as kinetics, analysis, and synthesis. The wine samples were examined by AA, IR, MS, and GC, while the kinetics of an organic reaction were studied by IR, MC, NMR, GC, AND UV. The students were reasonably satisfied with this approach to teaching chemical instrumentation but were not happy about the time required.

The present plan is to continue this approach over the next four years during which time the new experiments will be examined and evaluated.

A detailed description of the best experiments is available to interested System faculty.

Bruce Murray
Chemistry
UW-River Falls

UPDATE 8/81 AMOUNT $5,000

DESCRIPTORS
*Chemistry
Laboratory Sciences

790024 S

TITLE: THE DEVELOPMENT OF A UW SYSTEM MATHEMATICS PLACEMENT TEST

The project sought to develop a standardized mathematics placement test that could be made available to all students applying to units of the UW System. It was proposed that it would be administered annually at various sites in the state by the regional testing program, which currently conducts the English Placement Test. Since placement testing is an integral part of each mathematics department's instructional activity and the departments need to preserve autonomy in the design and conduct of their own programs, participating units would assign their own weights to the test items.

LATEST REPORT: During the 1979-80 academic year, numerous items were written and pilot tested on both college and high school populations. The item analyses from these pilot examinations led to revisions and compilations of new forms for 1980-81 piloting. Work has progressed well with hopes for a single form to be developed by the end of the 1980-81 year, then to be adequately tested before final implementation. When complete, the test will be available for use at any of the institutions of the System and through the Regional Testing Program.

During 1980-81, a final single form of the test was agreed upon and will be utilized during the 1981-82 academic year on many of the System campuses either for equating with previous placement procedures or for data gathering for future use in placement. Also a cover document containing objectives and position papers was published and is available on request.

During 1981-82, the above mentioned equating and data gathering will be conducted. This original form will be fine tuned and work on subsequent forms will be begun.

Billie Earl Sparks
Mathematics
UW-Eau Claire

UPDATE 8/81 AMOUNT $12,225

DESCRIPTORS
*Basic Skills Mathematics
Testing

790025 S

## TITLE: CULTURAL ENCOUNTERS MEDIA PROJECT

There is an instructional need for video materials on cultural relativity and the use of study/travel experiences to increase students' historical, cultural, and social understanding of differing societies. This project produced a 60-minute videotape of the UW-Milwaukee Cuba study tour during Winter 1979/80. The videotape also has applications in history, sociology, and anthropology classes that examine cultural relativity and comparative processes of societal change.

LATEST REPORT: The tour and filming occurred during December, 1979 and January, 1980 as the student group traveled around Cuba. Eight of the students were selected as a representative sample on which to focus the filming.

The project has been completed and is available for classroom and other live audience viewings, as well as for public broadcast. Contact Bill Jarrett (414) 963-5986, Center for Latin America, at UW-Milwaukee for availability.

The Project Directors are enthusiastic about their product and feel it is an effective "instructional instrument" which will aid university faculty in clarifying the frequently elusive concepts of cultural relativity and the cultural shading of human perceptions to students of history, sociology, anthropology, international relations, etc.

Russell H. Bartley
History
UW-Milwaukee

James Otis Smith
Sociology
UW-Milwaukee

John B. Bray
TV Services
UW-Milwaukee

UPDATE 8/85

AMOUNT $4,260

DESCRIPTORS
*Latin American Studies; *Sociology; *History; *Anthropology
Audio Visual TV Taped

790026 S

TITLE: PROJECT ON INTERACTIVE EXHIBITRY

The Exploratorium in San Francisco, California, provides exhibits, designed and built on site, which lead one to explore and interact with the senses. Each exhibit is conceived as an instructional tool which can serve to illuminate specific natural phenomena or scientific concepts. This is a library of learning props which can be used by educational institutions at all levels, including graduate schools.

The intent of this project was to supplement a fellowship from the Exploratorium that would enable the Project Director to develop some interactive exhibits and to gather information about other exhibits that could be set up in Wisconsin.

LATEST REPORT: The Project Director developed a number of experiment/exhibits including a model for total internal reflection in animal cells, a demonstration of how light interacts with a half-silvered mirror, and the effect of symmetry in letters--the invariance under an inversion through a line or mirror plane.

The Project Director expects that exhibit areas will be installed on the UW-River Falls campus to attract non-science students and provide motivation for those taking introductory science courses; portable exhibits will be made available to high schools in the vicinity. Additionally, workshops and consultation will be offered to UW System faculty.

During July, 1985 four staff members from the WCWC universities will be participating in an exhibit-based science curriculum workshop at the Exploratorium (See #856018B).

Wayne W. Sukow
Physics
UW-River Falls

UPDATE 8/85 AMOUNT $1,802

DESCRIPTORS
*Faculty Development
Models; Demonstrations

# GRANTS AWARDED

## 1980 - 81

801001 A

TITLE: A PROGRAMMED STUDY AID FOR SOLVING PROBLEMS IN UNDERGRADUATE ADVANCED ORGANIC CHEMISTRY

Although a number of pedagogical methods have been applied to the teaching of general chemistry and to a lesser extent basic organic chemistry, no work has been done on developing programmed instruction aids for the undergraduate course in advanced organic chemistry.

An important goal in a course of this type is to develop the student's ability to solve less routine, thought-provoking problems in synthetic and mechanistic organic chemistry, utilizing the concepts presented in class and applying them to a new and more practical situation commonly encountered in chemistry research. Although many texts used for this course have good problems, the answers, when finished, are not aimed toward helping the undergraduate student learn how to solve the problem in a stepwise fashion. They simply give the whole answer, defeating the purpose of the problem: to encourage the student to think.

LATEST REPORT: The Project Director developed 350 pages of study aids for over 200 problems in a step-by-step programmed format, furnishing students with a series of hints or partial answers to enable them to solve the problems. Some students require only one or two pieces of information. Others need more help before they see how to complete the problem. Such a concept is novel and unique at the advanced undergraduate level in teaching organic chemistry.

Seminars on the project were offered in October, 1980 at the University of Wisconsin Chemistry Faculties Meeting at UW-Parkside and in May, 1981 at the Joint Great Lakes Regional Meeting of the American Chemistry Society held in Dayton, Ohio. A paper on the project has appeared in the Journal of College Science Teaching and the Journal of Chemical Education. Numerous copies of the study aids have been given to interested faculty, both Systemwide and nationally.

Philip J. Chenier
Chemistry
UW-Eau Claire

UPDATE 8/83 AMOUNT $6,031

DESCRIPTORS
- *Chemistry
- Programmed Text

801002 A

# TITLE: LABORATORY EXERCISES: INTRODUCTORY COURSE IN SOLAR ENERGY

The purpose of the project was to design a series of experiments to complement an existing introductory course in solar energy. The experiments were intended to demonstrate the problems and possibilities offered by solar energy systems and were to include work in site preparation, calorimetry, pyranometers and solar radiation, performance of collection systems, and field studies of existing solar energy applications.

LATEST REPORT: The Project Director has developed a set of laboratory experiments for a 3-credit introductory level course in solar energy. There was a considerable demand for the course; enrollment had to be limited to twenty-four due to the laboratory capacity. Consequently, the course filled up early during the registration process.

The Project Director found that by working through the experiments the students get a better understanding of the various aspects of solar energy. The exercises consisted of a combination of actual laboratory-type experiments and problem-oriented assignments. The schedule of the experiments for various groups of students had to be quite flexible due to the unpredictable weather conditions and also due to the limitation on the major pieces of equipment where there were only one or two setups available.

Some of the experiments developed for the course are: "Modeling Domestic Hot Water System," "Altitude, Azimuth, and Plotting Solar Window," "Measurement with Pyranometers," "Solar Test Boxes," "Measurements with Solar Collectors," "Instantaneous and Average Efficiencies," "Transmission Properties of Glass Covers," "Photovoltaic Panel - Performance Curves and Efficiencies," "Storage of Thermal Energy," "Energy Balance for a Greenhouse," and "Heat Losses and Heating Bills for Houses."

A workshop which used some of these experiments was held for high school teachers.

Anjani K. Mehra
Science and Environmental Change
UW-Green Bay

UPDATE 6/82 AMOUNT $5,480

DESCRIPTORS
*Physical Sciences
Laboratory Sciences

801003 A

TITLE: PRE-LABORATORY QUIZ BY COMPUTER FOR ORGANIC CHEMISTRY

The objective was to improve the student's educational experience and safety in the organic chemistry laboratory by assuring that the student comes adequately prepared. A computer mediated pre-laboratory quiz (PLQ) was developed and implemented during 1980/81 in "Organic Chemistry Lab I" (226:304), and "Organic Chemistry Lab II" (226:305).

The computer program allows organic chemistry students to take a quiz at their convenience prior to each week's laboratory. The PLQ consists of 4-5 multiple choice questions on theory, methodology, and safety aspects of the experiment. A student may take the quiz as often as necessary to pass. The quiz must be successfully completed before admission to laboratory.

LATEST REPORT: The PLQ was well received by students. They indicated that they were glad they were forced to prepare for the laboratory session and said they felt more confident in the laboratory because they knew exactly what they were doing. The actual terminal time per student for each PLQ was about 8 minutes. The PLQ is interactive and can be used by students with no prior computer experience.

The package is as general as possible to facilitate use in other courses. It is written in Standard Fortran for use on a medium size mainframe computer. Several faculty at UW-Green Bay have expressed interest in using PLQ in their laboratory courses. In one case there is a possibility that PLQ will be used for a literature course discussion section.

A paper on use of PLQ on organic chemistry was presented in the Chemical Education session at the American Chemical Society national meeting in Atlanta, Georgia, in April, 1981. The general utility of a computer based pre-laboratory quiz to improve teaching effectiveness and laboratory safety was the topic of a paper presented at the Seventh International Conference on Improving University Teaching in Tsukuba, Japan, in July, 1981. A presentation was also made at the UW System chemistry faculty's annual meeting at UW-Eau Claire on October 10, 1981. An article has been accepted for publication in the Journal of Chemical Education.

Ronald Starkey
Science and Environmental Change
UW-Green Bay

UPDATE 8/83 AMOUNT $3,695

DESCRIPTORS
*Chemistry
Laboratory Sciences; Computer Testing

801004 A

TITLE: MEDIATED ENGLISH HISTORY COMPONENTS FOR ENGLISH LITERATURE SURVEY

This project was to develop a series of media components in English history to be integrated with study units in a two-semester sophomore English literature survey course, in order to enhance the student's understanding of works from remote periods.

LATEST REPORT: The major steps in developing and integrating media components for this project were: 1) extensive reading and research in English history; 2) review and evaluation of commercially prepared media components; 3) a literature search for media resources; and 4) organization of the resources into units for integration into the course.

The course now begins with a ten-minute overview accompanied by music; 160 slides displaying familiar British landmarks, landscapes, and artworks are flashed on the screen. Subsequent classes are supplemented by a slide lecture survey of British history, a slide-tape narration on the legends of King Arthur, a videotape entitled "Chaucer's World," etc. Students are assigned to listen to an audiotape, "Life in Shakespeare's London", on reserve in the library. The instructor uses fewer media resources as the course progresses, but students are encouraged to use media resources for their end-of-semester papers, reports, and projects.

Project difficulties included the loss of a student assistant and failure to secure a specially-equipped classroom for use of extensive media components. However, student retention was improved (from 72% to 93%) after use of mediated materials. Student enrollment also increased. Material developed for this project will be used in a pilot program for a videocourse on "English Literature in Context," for which the Project Director has received a sabbatical for Spring 1983.

Materials purchased for the project--films, videotapes, filmstrips, and audiocassettes--may be loaned to others in the UW System whenever they are not being used in the UW-Green Bay course.

Michael W. Murphy
Humanistic Studies
UW-Green Bay

UPDATE 6/82 AMOUNT $4,785

DESCRIPTORS
*English; *Interdisciplinary
Audio Visual Film; Audio Tape Recording; Visual Film Strips; Visual Slides

801005 A

TITLE: MUSIC APPRECIATION LECTURE/RECITAL

This project was aimed at eliminating an instructional deficiency--the lack of materials available for use in teaching music appreciation related to Franz Schubert.

Using the data collected from earlier research, this project incorporated the "Young People's Concert" style of Leonard Bernstein to present the material of Franz Schubert to music appreciation classes. In a lecture/recital production, the content of this course segment was performed by the Project Director and Nancy Arganbright. Hearing a performance of selected works of Schubert's one-piano, four-hand compositions, the students are introduced to a great body of excellent but often neglected literature.

The lecture recital was videotaped live and edited for use in future classes together with other media (films, slides, etc.) covering other composers.

LATEST REPORT: The project was completed in Summer 1980 and materials were first used in the classroom in Fall 1980. Approximately 600 students per semester view the videotape, and student response has been favorable. Use of the materials developed by the project will continue within the music appreciation unit on Romantic composers.

Dallas A. Weekley
Music
UW-La Crosse

UPDATE 6/82 AMOUNT $2,758

DESCRIPTORS
*Music
Audio Visual TV Taped; Performances

801006 A

TITLE: TUTORIAL TAPES FOR INDIVIDUALIZED INSTRUCTION IN INTERMEDIATE ALGEBRA

The teaching of intermediate algebra is hampered at most institutions by the large variation in mathematical background among students. The Mathematics Department at UW-La Crosse has dealt with this problem by the introduction of an individualized approach combined with a lecture format. A problem associated with this method is the impossibility of scheduling lectures to have maximum benefit for more than a small portion of the class.

The Project Directors addressed this problem by the production and use of audiovisual tutorial tapes. These tapes consist of a taped audio portion with an automatically cued slide program. Troublesome topics were selected by analyzing test materials and homework from the previous individualized sections. The tapes were made available to slower paced students to reinforce ideas given in earlier lectures and to faster paced students as an introduction to new topics. Post analysis was done immediately thereafter by statistical comparison of previous individualized sections with the tape-individualized sections.

LATEST REPORT: Nine tapes were produced covering the topics of grouping symbols and signed numbers, fractions, factoring, radicals, straight lines, and exponents. The programs were implemented at the beginning of Fall 1980. Materials were used during 1980-81, are in use now, and will continue to be used in the future.

Interviews with student users drew comments that ran the gamut from "really helped" to "already knew all of it." Statistical evaluation has been hampered by small sample sizes, a problem which was aggravated by data loss. The preliminary statistical evaluation has been mixed, with no evident trends and few significant results.

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| James D. Wine<br>Mathematics<br>UW-La Crosse | Michael Olan<br>Mathematics<br>UW-La Crosse |
| UPDATE 6/82 | AMOUNT $9,604 |

DESCRIPTORS
*Basic Skills Mathematics
Autotutorial; Audio Visual Multimedia

801007 A

## TITLE: IMPROVING THE LABORATORIES OF THREE MEAT AND ANIMAL SCIENCE COURSES BY DEVELOPING EIGHT VIDEOTAPES AND 16 MM FILMS

This project was to improve the laboratories of three Meat and Animal Science undergraduate courses, "Livestock Production" (MAS 101), "Growth, Composition, and Evaluation of Meat Animals" (MAS 220), and "Meat Science and Technology" (MAS 305), by developing color videotapes. These tapes provide new information that has been unavailable, as well as supplementing principles covered in lecture. Other long-term advantages include 1) increased safety and sanitation in conducting laboratory assignments, 2) improved efficiency in the use of the students' and instructors' time, and 3) reduced departmental costs in selecting and transporting livestock and students.

LATEST REPORT: On the strength of the UTIG grant, other funds, including $30,000 provided by the National Pork Producers' Council, $1500 from the American Sheep Producers' Council, $1500 from the Wisconsin Beef Council, and $1000 from the Wisconsin Pork Council, were attracted to supplement and extend some of the proposed films and videotapes. A 55-minute videotape (including narration) on proximate analysis procedures for meat samples was completed and successfully used in the classroom Spring 1981. This tape received first place in the 1981 American Meat Science Association educational exhibit competition at Corvallis, Oregon, and has been sold to ten other institutions. Other UTIG-supported films on swine evaluation, common phenotypic abnormalities that occur in breeding and market livestock, and variations of live market animals are completed. Two videotapes on animal anatomy and sausage marketing procedures are also completed. The tapes and film have been distributed throughout the United States. One film has already been reproduced 100 times for use by the National Pork Producers' Council.

Videotapes will be housed in the audiovisual center of Steenbock Library. Evaluations have been solicited from students and faculty throughout the country and all reports have been strongly positive. For classes, the material has been used many times with great successes.

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| Robert G. Kauffman<br>Meat and Animal Science<br>UW-Madison | James V. Lochner<br>Meat and Animal Science<br>UW-Madison |
| UPDATE 8/85 | AMOUNT $11,350 |

DESCRIPTORS

*Meat and Animal Science
Audio Visual TV Taped; Audio Visual Film; Laboratory Sciences

801008 A

## TITLE: A VIDEO TAPE PROGRAM OF CLINICAL OBSERVATIONS IN SPEECH, LANGUAGE, AND HEARING PROBLEMS

Students enrolled in the preprofessional (undergraduate) program in the Department of Communicative Disorders are required to complete twenty-five clock hours of supervised clinical practicum. The observation requirement is difficult to fulfill because of the large number of students (90-120) requiring the experience; the inadequate "live" observation facilities for large classes; the inaccessibility to different and unusual cases at times when students may be available for observation; and inability to provide consistent faculty input to students at the time "live" observations may be scheduled.

A solution was to develop a series of videotapes of variant types of communicative disorders within various clinical situations. Edited tapes together with faculty commentary allowed all students to observe well-qualified clinicians practicing therapy. Students were to be examined on the material presented in the video situation and comparisons could be made between the information gained by the video procedure and the current means of simulated and live observation experiences.

NOTE: This work was done in cooperation with UTIG 801020 B.

LATEST REPORT: Three videotapes have been completed; other tapes are in progress. The major problem encountered in implementation was the limited availability of staff time to direct the non-technical aspects, i.e., the communicative disorders content portion. The Department of Communicative Disorders staff intends to continue this project until it is finished. The Department considers the videotapes necessary to support the clinical training/teaching program.

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|---|---|
| David E. Yoder<br>Communicative Disorders<br>UW-Madison | Gary D. Gill<br>Communicative Disorders<br>UW-Madison |
| UPDATE 8/80 | AMOUNT $9,450 |

DESCRIPTORS
*Communicative Disorders
Audio Visual TV Taped; Clinical Training

801009 A

# TITLE: INTERACTIVE DIGITAL COMPUTING FOR CHEMISTRY COURSES

The purpose of this project is to provide chemistry students experience with computing techniques as applied to chemical problems. Digital computers are today being used in all areas of chemistry. It is a disservice to students not to provide them with some exposure to computers in chemistry before they enter industry or graduate school.

Students use computer terminals in analytical, physical, and inorganic courses to analyze data obtained in laboratory and to carry out theoretical calculations illustrating concepts covered in lectures. The number of students benefiting from the proposed facility is approximately 150 per year, including all chemistry majors.

LATEST REPORT: Three remote terminals purchased with L&S matching funds were installed in the Chemistry Department with telephone lines to the Univac 1100/81 in University Computing Services. Following their installation, computer programs were introduced into the advanced physical chemistry laboratory course and the inorganic chemistry lecture course. Due to a resignation, the anticipated development of interactive programs for computer experiments in the analytical chemistry courses was not undertaken, but will follow the hiring of replacement faculty.

To date, an insufficient number of students (28) have used the computer facility to allow quantitative evaluation. Qualitatively, student reaction has been favorable. Students with previous computer experience (about 50%) were able immediately to begin calculations, while the remainder needed some coaching to overcome initial difficulties.

Other UW System chemistry faculty are invited to make use of the computer experiments which were developed. Programs are written specifically for a Univac mainframe computer, but modification for use on other systems should not be unduly difficult. Listings and magnetic tape copies, together with student instruction sheets, are available from the Project Director.

Russell R. Howe
Chemistry
UW-Milwaukee

UPDATE 8/80 AMOUNT $8,500

DESCRIPTORS
*Chemistry
Computer Problem Solving; Computer Simulation

801010 A

TITLE: BASE FRICTION MODEL DEVICE FOR CIVIL, GEOLOGICAL, AND MINING ENGINEERING INSTRUCTION

A number of undergraduate courses in civil, geological, and mining engineering deal with the behavior of rocks and soils when subjected to external loads. Most of these geological materials are pervaded with weaknesses, such as joints, fissures, and faults, which control their behavior. With increasing emphasis on underground construction for mining natural ore bodies, storage, and power generation, undergraduate students should be exposed to the influence of these weaknesses on the stability of such structures. An alternative to theoretical analysis is to supplement teaching with demonstration on a small scale of the role of such discontinuities on structure stability.

The purpose of the project was to design and construct a portable base-friction model for classroom demonstration of the effect of soil and rock discontinuities on material behavior. The model would demonstrate behavior of underground openings, slope stability, and other engineering aspects of soil and rock mechanics.

LATEST REPORT: The resignation of the original project director led to reassignment of the project. Thus far, work on the project has consisted of design of the device, preparation of shop drawings, selection and purchase of components, and fabrication of the unit in the shop. Considerable modification of the originally proposed materials and details of construction was required.

The base friction model has been used in geotechnical engineering courses (soil mechanics, foundation engineering) to demonstrate failure mechanisms due to external loadings. Examples include the shear failure due to foundation loads, movement of jointed rock masses around tunnels, and the stability of soil and rock slopes. The device does have some limitations in that it is difficult adequately to provide realistic lateral constraints to the soil or rock mass models. Modifications of the device are planned. The device does not appear to be as effective as the original proposer expected.

Gilbert L. Roderick
Civil Engineering
UW-Milwaukee

UPDATE 8/85 AMOUNT $4,075

DESCRIPTORS
*Engineering; *Geology
Models

801011 A

TITLE: INTERACTIVE COMPUTER SIMULATIONS IN AN ADVANCED BIOLOGY LABORATORY

This project was to introduce interactive computer simulation into the life science laboratory, "Modern Techniques in Experimental Biology." The objectives were to expose students to the technology of microcomputers and their power and potential as a tool in science education in research; to develop and strengthen the student's conceptual understanding of enzymology; and to allow a student to perform technically difficult laboratory experiments in gene sequence analysis using computer simulation. An evaluation process included student testing of conceptual thinking, knowledge, and satisfaction, and departmental review of the new laboratory exercises.

LATEST REPORT: A computer program for simulation of the laboratory technique for determining the base sequence in DNA was written and tested. Work has begun on a second program for simulation and analysis of enzyme kinetic data and is continuing with support from the National Science Foundation. Both programs will be submitted to Conduit for nationwide distribution. The programs were written in Pascal and have been implemented on an Apple II Plus system having one disk drive and 48K bytes of core memory.

The DNA sequencing program assigns two unknown base sequences to each student in a class: one "easy" short sequence of 8-10 base pairs and one long sequence of 18-20 base pairs. Resolution of the simulated electrophoretograms is adjusted so that restriction enzymes must be employed to obtain an unambiguous result for the long sequence. Students perform simulated experiments aimed at disclosing the sequence of their unknowns. If a printer with graphics capability is available, students may get hard copies of the electrophoretograms for inclusion in their notebooks. A laboratory report is required of every student in which they describe the methods and experiments they simulated in sequencing their DNA fragments. Because everyone has different unknowns, students can be encouraged to help one another with the analysis.

Michael T. Marron
Chemistry
UW-Parkside

Eugene M. Goodman
Life Sciences
UW-Parkside

UPDATE 8/81

AMOUNT $8,486

DESCRIPTORS
*Biology
Computer Simulation; Laboratory Sciences

801012 A

TITLE: DEVELOPMENT OF BASIC RESEARCH WRITING SKILLS WORKBOOK FOR COLLEGIATE SKILLS PROGRAM

The purpose of this project was to complete a student workbook--"Basic Research Writing Skills"--to help students fulfill the research writing competence instituted at UW-Parkside as part of the collegiate skills program. The workbook could be used in conjunction with the library skills workbook, which introduces students to library use in general. The research writing competence has evolved from English 101, "Composition," into a one-credit separate course, English 102, "Basic Research Writing." The Project Directors collaborated during the academic years 1976-79 to develop an instructor's manual. In its revised form it was offered as an aid in both the teaching of the course and in the completion of the competence. Faculty review of the text identified areas which required further development.

LATEST REPORT: "Basic College Research" is now complete and has been in use in English 102 sections for three semesters, including the summer session. The workbook is also recommended for use by students submitting their research papers, independent of course work, to the Educational Program Support Office. Thus, it has been used by students both in and out of the classroom as they prepare to complete the research paper requirement of the collegiate skills program at UW-Parkside.

The final stages of administering the grant have included development of a student questionnaire relating students' confidence in their research writing skills to their use of "Basic College Research." Some editorial changes have required a second edition to be printed for the fall; a long range goal is to revise the plan of using two separate workbooks to teach bibliographic and writing skills, so that the two workbooks form one cohesive text.

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|---|---|
| Carol Lee Saffioti<br>Humanities<br>UW-Parkside | Patricia Berge<br>Library/Learning Center<br>UW-Parkside |
| UPDATE 8/81 | AMOUNT $2,848 |

DESCRIPTORS
*Basic Skills English Composition Workbooks

801013 A

## TITLE: A CONCENTRATED SEMESTER IN RENAISSANCE STUDIES AND SHAKESPEAREAN DRAMA--SPRING SEMESTER 1981

Since undergraduate theatre programs in the state offer such wide-ranging activities, they are unable to develop coordinated programs aimed at production of Shakespeare's drama or to produce his plays on a regular basis. Furthermore, campuses find it difficult to develop unique programs in the arts or to coordinate and use a wide variety of faculty specialties in cross-disciplinary programs. The objective of this project is to use Shakespeare as the central focus of an interdisciplinary and collaborative one semester program to benefit students through a system of total immersion pedagogy.

Specifically, students in Spring 1981 would 1) study three Shakespeare plays in an in-depth seminar, 2) take a master class in acting devoted to Shakespearean scenes, 3) study the performance of Elizabethan dance and music, 4) study Shakespeare--the man and the time in an interdisciplinary seminar in history and literature, and 5) mount a Shakespearean production for a self-supporting tour to state high schools, vocational and two-year centers, colleges, universities, and communities during the last six weeks of the semester.

The outcome of this experiment would be a thematically integrated cross-disciplinary undergraduate program that would synthesize literature, drama, art, music, and history, culminating in actual performances on tour as a final test of what the students had learned. The development of student actors in the field of Shakespearean drama is also expected. Evaluation of the success of the program would come through 1) traditional evaluation of students in seminars and master classes, and especially from 2) the success of the students facing real audiences, real critics, and finally 3) evaluations from designated field representatives.

PROJECT CANCELLED.

Thomas S. Goltry
Fine Arts
UW-Platteville

UPDATE 8/83 AMOUNT $11,767

DESCRIPTORS
*Arts; *Theatre; *Interdisciplinary
Course Development; Performances

801014 A

# TITLE: COMMUNICATIVE DISORDERS: UNDERGRADUATE INTERACTION WITH PROFESSIONALS IN A VARIETY OF CLINICAL SETTINGS

This project addresses several clinical and academic needs that exist in the undergraduate program in communicative disorders at UW-River Falls. The two primary needs are: 1) to provide interaction with professionals employed in diverse clinical settings; and 2) to develop a videotape library of clinical cases which are unavailable in a small rural speech, language, and hearing clinic. To meet these needs the Project Directors arranged for twenty-three professionals from unique settings to present lectures, case presentations or discussions. Also, to increase undergraduate exposure to a diverse clinical population, the Project Directors planned a videotape library involving speech and language pathologies, with the professionals involved in the lecture series.

LATEST REPORT: The professional lecture series began in September, 1980 and continued through the 1980-81 academic year. A total of 563 students attended the lecture series. Pretests and posttests were administered to students by 20 of the guest lecturers. The tests reveal a 19% improvement in student performance as a result of the lecture series, or an increase of nearly two letter grades.

The videotape library now has 46 usable tapes illustrating various communicative disorders (such as stuttering and aphasia). Due to budgetary restrictions, departmental continuation of the guest lecture series was impossible. However, the videotape library will allow dissemination of clinical information, similar to that provided in the lecture series, for many years to come.

Paul A. Hayden
Communicative Disorders
UW-River Falls

Nanette Jordahl
Communicative Disorders
UW-River Falls

UPDATE 6/82

AMOUNT $3,456

DESCRIPTORS

*Communicative Disorders
Audio Visual TV Taped; Clinical Training

801015 A

TITLE: COMPUTER ASSISTED INSTRUCTION IN INTRODUCTORY SOCIOLOGY

This project was to improve and enrich instruction in the introduction to sociology course. A computer program entitled "Introduction to Sociological Concepts Through Computer Assisted Instruction" (ISCCAI) was planned to achieve the following objectives: 1) to provide a form of individualized instruction for introductory students; 2) to shift the emphasis from definitions of basic sociological concepts and principles to their application or use; 3) to provide greater uniformity of instruction; and 4) to identify students who are experiencing difficulty early in the quarter. The ISCCAI program represents a modification of several existing CAI programs.

LATEST REPORT: A total of 136 volunteer students participated in ISCCAI during Fall 1980. An item analysis was conducted and corrections were made. During Winter and Spring 1980-81, students were randomly assigned to experimental (338 students) and control (304 students) groups by section. A pretest and posttest on basic sociological concepts showed no significant difference between groups. However, when the final grades of the groups were compared a significant difference was found.

The student response to the ISCCAI program was very enthusiastic. The staff members of the Sociology Department felt that the program was very helpful in identifying students who were having difficulty. These students were referred for remedial work.

During the 1981-82 academic year the program will be used mostly on a voluntary basis. However, those students who are identified as having difficulty will be required to use the program.

The program is designed for a Hewlett-Packard 3000 Computer and is available to interested individuals within the UW System.

Clifford Mottaz
Sociology
UW-River Falls

UPDATE 8/81 AMOUNT $4,783

DESCRIPTORS
*Sociology
Computer Autotutorial

801016 A

TITLE: DEVELOPMENT OF INSTRUCTIONAL PACKAGES IN OBSERVATIONAL ASTRONOMY AT UW-RIVER FALLS

With an observatory housing a 20" telescope and an observing platform, UW-River Falls has upgraded the observational component of its astronomy program. The observing facility meets student needs from the beginning to advanced level. The purpose of this project was to develop procedures and techniques to enable these students to achieve a high degree of success in viewing, photographing, and measuring celestial objects with a variety of telescopes and instruments. Programs developed for a graphics terminal provide an animated format for introducing physical laws which apply to the motion of celestial objects. These programs enable the student with less mathematical sophistication to gain a deeper understanding of these motions.

LATEST REPORT: Work resulted in eight instructional modules in observational astronomy and four programs for use on an Apple II Plus microcomputer. Most modules begin with a general approach which would make them adaptable to other systems (i.e. computer programs are for Apple II Plus, small telescopes are Celestron -8" and 90 mm, cameras are Minolta SLR). The modules developed are: instructions for telescope use, setting up a small telescope, observational astronomy, moon view, solar observations, planetary observations, astrophotography, stellar photometry, star display system, lunar lander, apollo orbit, planets, and two commercially available programs, tellstar-level 2 and star gazer's guide.

During 1980-81, approximately 700 students used the modules. These modules will be integrated into basic astronomy courses during 1981-82.

Wayne Sukow
Physics
UW-River Falls

John Shepherd
Physics
UW-River Falls

Warren Campbell
Physics
UW-River Falls

UPDATE 6/82

AMOUNT $13,250

DESCRIPTORS
*Astronomy
Laboratory Sciences; Computer Graphics

801017 A

# TITLE: SOFTWARE ADAPTATION AND DEVELOPMENT FOR IMPLEMENTING INSTRUCTION IN COMPUTER CARTOGRAPHY

Application of computer technology has become an essential ingredient in cartographic research, data analysis, and map production. Although the Geography Department offers a wide range of courses which cover all traditional aspects of map interpretation, development design, production, and communication, none of the courses has dealt with computer applications in cartography.

To remedy this deficiency, the necessary faculty expertise for providing the instruction has been gained, the computer graphics hardware has been acquired, a new course in computer mapping has been developed, and the existing courses in introductory, thematic, and advanced cartography have been revised to include sections dealing with computer applications. This project allowed the adaptation of existing software and development of new software to implement instruction in the new computer mapping course and the revised sections of existing courses.

LATEST REPORT: Severe problems were encountered but eventually overcome in interfacing some of the computer hardware for which project programs were to be adapted and developed. In some cases, it was advisable to write new programs for the hardware rather than to adapt some of the available computer mapping programs. All the new programs proposed under the grant were written.

Computer programs adapted or created as a result of the project were incorporated during 1980-81. Approximately 100 students enrolled in various level geography classes were served in the 1980-81 academic year. Restructuring of the programs often involved enthusiastic student input, even from those who had initially approached the use of the computer with apprehension.

Student enrollment in courses utilizing the programs is expected to continue to increase, especially with the implementation of a new minor in cartography. An annotated software bibliography is being prepared for distribution to other interested geography departments in the System.

Carol G. Barrett
Geography
UW-River Falls

UPDATE 8/83 AMOUNT $7,389

DESCRIPTORS
*Geography
Computer Graphics

801018 A

TITLE: INTERDEPARTMENTAL ANALYSIS AND REVISION OF PHYSICS 201 LABORATORIES

Five years ago the College of Natural Resources requested that the Department of Physics and Astronomy develop a technically-oriented, two-semester physics course for its students majoring in soils, water sciences, forest management, fisheries, and limnology. Experience has shown that the laboratory exercises traditionally done in an introductory course do not illustrate well the specific scientific principles which must be taught to this special group of students. Two faculty members from the Department of Physics and Astronomy and one from the College of Natural Resources developed special laboratory exercises specifically for this course.

LATEST REPORT: Laboratory exercises previously done in Physics 201 were critiqued; those less relevant were discarded. A search of the literature was made to determine what had already been done in developing laboratory work in physics with applications in natural resources. Some previously used exercises were rewritten by the Project Directors; several new ones were developed and tested.

Laboratory exercises developed as a result of the project were used in all sections of Physics 201 during 1980-81. They covered measurement of the speed of sound in air, conservation of mechanical energy, terminal velocity of a raindrop, viscosity of liquids, solar insulation, acceleration due to gravity (free-fall method), and other topics.

Preliminary results indicate that the exercises were well received by the students, that the required laboratory work was helpful, and that Physics 201 has been improved.

The laboratory exercises will continue to be used in Physics 201. As additional laboratory equipment becomes available, more exercises will be added. Approximately 75 student enrollments per semester are anticipated.

In March, 1985, Professor Beeken presented on behalf of himself and Professors Schmitz and Lokken a paper on "Statistical Data Analysis in Introductory Mechanics" to the Wisconsin Association of Physics Teachers. He included findings from this project and the one at 823012 A.

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|---|---|
| Ronald A. Lokken<br>Physics & Astronomy<br>UW-Stevens Point | Francis L. Schmitz<br>Physics & Astronomy<br>UW-Stevens Point |
| UPDATE 8/85 | AMOUNT $6,482 |

DESCRIPTORS

*Physics; *Natural Resources
Laboratory Sciences

801019 A

TITLE: MICROCOMPUTERS FOR SELF-TUTORING IN CHEMISTRY

A self-tutorial program for problem solving in chemistry was to be developed for use in conjunction with the present audiovisual tutorial program at UW-Stevens Point. The project involved the purchase of two microcomputers (one through the grant and one to be purchased by the campus) and time for the development of computer programs. These programs were to be interactive--generating problems, checking answers, and offering suggestions on how to do the problems correctly. The equipment was to be available for student use 50 hours a week in the audiovisual laboratory.

LATEST REPORT: Two TRS-80 microcomputers were purchased and installed in the audiovisual laboratory. Project Directors spent four weeks of intensive program writing during Summer 1980. Programs generated were: writing exponential numbers, using exponential numbers, using significant numbers, symbols and names of the elements (2 parts), ionic formulas, and simulated density experiment. Student worksheets were also prepared for the latter two programs. Microcomputers and programs were available for student use in Fall 1980. Since then, the program library has expanded to about twenty programs, but student use is generally optional, due to large enrollments in Chemistry 105 (about 425 students) and limited equipment (just two microcomputers). Student response has been favorable.

Programs were shown to UW System chemistry faculty at their annual meeting in October, 1980, and several programs have been submitted to Conduit for possible publication.

| | |
|---|---|
| Calvin H. Schmid<br>Chemistry<br>UW-Stevens Point | Raymond A. Sommers<br>Chemistry<br>UW-Stevens Point |
| UPDATE 6/82 | AMOUNT $6,212 |

DESCRIPTORS

*Chemistry
Computer Autotutorial

801020 B

TITLE: CRANIOFACIAL ANOMALIES VIDEOTAPE SEQUENCE FOR IMPROVEMENT OF INSTRUCTION IN SPEECH PATHOLOGY

Preclinical training experiences are an integral part of undergraduate education in the field of communicative disorders. As part of their pre-clinical education, students from UW-Madison, UW-Oshkosh, UW-Stevens Point, and UW-Whitewater all make live observations at the Craniofacial Anomalies Clinic at the UW-Madison Center for Health Sciences. These observations present several logistical problems for both the patients and student observers. The purpose of this project was to develop a series of video-taped learning modules on clinical aspects of craniofacial anomalies. This work was done in cooperation with the project described in #801001 A.

LATEST REPORT: More than twenty videotaped learning modules (videotapes and study guides) were produced at UW-Madison. Seventeen speakers were videotaped, including dentists, physicians, university instructors, children with cleft palates, and parents of children with clefts. Each tape was previewed by the presenter and project staff; presenters were given the opportunity of scheduling an additional taping if not satisfied with the original product.

Ten of the twenty-two tapes were used in classes at UW-Madison, UW-Stevens Point, and UW-Whitewater in Spring 1981. Approximately 105 students viewed the tapes. Students' responses were positive. They judged the tapes well-organized, relevant, informative, and interesting. Students were appreciative of the tapes because of the exposure to a variety of experts and the convenience of group observation. Project Directors anticipate that others in the System may be interested in using the tapes.

All of the tapes produced with the grant were used in teaching the course, "Speech and Voice Disorders of Cleft Palate," Spring 1985, at the University of Wisconsin-Whitewater.

Diane M. Bless
Communicative Disorders
UW-Madison

Stanley J. Ewanowski
Communicative Disorders
UW-Madison

Molly Krival
Communication
UW-Whitewater

William H. Meyer
Communicative Disorders
UW-Stevens point

UPDATE 8/85

AMOUNT $15,838

DESCRIPTORS
*Communicative Disorders
Audio Visual TV Taped

801021 B

TITLE: POETS IN WISCONSIN: VIDEOTAPE SERIES

The project addressed the need for teaching resources that underline the immediacy of poetry and poets through aural and visual means. The purpose of the project was to videotape a group of important Wisconsin poets in a manner to emphasize individual style and content.

LATEST REPORT: The series was completed in Summer 1982 and consists of videotapes of nine of Wisconsin's outstanding poets: John Judson (La Crosse) 30 minutes; James Hazard (Milwaukee) 30 minutes; Tom Montag (Fairwater) 30 minutes; J. D. Whitney (Wausau) 15 minutes; Edna Meudt (Dodgeville) 15 minutes; Roberta Jill (Eau Claire) 15 minutes; Ray Smith (Superior) 15 minutes; Miriam Ben-Shalom (Milwaukee) 15 minutes; and David Steingass (Madison) 15 minutes.

In these tapes the poets not only read their poetry but also discuss the process of writing in several different settings, indoors and out, which enhances the mood and meaning of the poetry.

As a first step toward evaluation Professor Harrold designed and taught a course in Fall 1982 titled "The Poet and the Current Literary Scene: Performance and the Media." The students' enthusiasm for the tapes and their numerous positive comments were most encouraging. Other Project Directors have used the tapes as well.

An all-day showing of the nine videotapes was presented in the UWM Union on the UWM campus in Fall 1983. The showing was open to the public and all viewers were invited to fill out a questionnaire concerning their responses to the tapes. The responses turned in were overwhelmingly positive. Some of the viewers inquired about using the tapes either professionally or personally. More money is needed to provide a way to make the tapes available on a wider basis. On other occasions individual teachers have made use of some of the tapes in their classroom and have reported enthusiastic student results. Within the last year a portion of the James Hazard tape was used on Milwaukee's Channel 10 television station.

William E. Harrold
English
UW-Milwaukee

Robert J. Schuler
English
UW-Stout

William D. Werner
Television Services
UW-Milwaukee

Andrew M. McLean
English
UW-Parkside

UPDATE 8/85

AMOUNT $15,170

DESCRIPTORS
*English
Audio Visual TV Taped

801022 B

TITLE: THE EFFECTIVE USE OF CHEMICAL DEMONSTRATIONS IN TEACHING UNDERGRADUATE CHEMISTRY COURSES IN THE UW SYSTEM

Chemical demonstrations are useful both for displaying chemical phenomena and for illustrating chemical principles. Demonstrations can be successful as a teaching tool only if the teacher is confident and comfortable in incorporating specific demonstrations into the course curriculum.

In Fall 1977 the Project Director was awarded a sabbatical to develop new and update old lecture demonstrations suitable for undergraduate chemistry courses. The Project Director intended to share the results of his work with colleagues in the UW System via a workshop. During the past two years the Project Director has compiled a substantial file of workable demonstrations on areas such as chemiluminescence, oscillating reactions, clock reactions, complexion chemistry, and redox chemistry.

LATEST REPORT: Sixteen UW System chemistry professors were trained to adopt and use over 50 chemical demonstrations in their undergraduate courses during an intensive workshop (June 8-14, 1980) led by the Project Director. Each participant was also given a 200 page collection of the demonstrations with complete details on procedure, hazards, and disposal information; discussion of chemical principles and pedagogy; and references. Participants were encouraged to share their experiences with their colleagues at the home institution.

Several thousand students have benefited directly from this project by being able to see chemical reactions during lectures, rather than by simply reading or hearing about them.

Bassam Z. Shakhashiri
Office of Assistant Director
for Science and Engineering Education
National Science Foundation
Washington, D.C. 20037

UPDATE 6/82 AMOUNT $18,073

DESCRIPTORS
*Chemistry
Faculty Development; Demonstrations

# GRANTS AWARDED

## 1981 - 82

812001 A

# TITLE: THE DEVELOPMENT OF A NOVEL COURSE IN UNDERGRADUATE INDUSTRIAL CHEMISTRY

Industrial chemical employers argue that important applied chemical technology is ignored at the undergraduate level. In 1973 a unique and successful chemistry-business comprehensive major was initiated at UW-Eau Claire to fill partially the academic-industrial gap. Because of the broad nature of this course, it is desirable to have a unifying interdisciplinary factor, namely, one instructor who can knowledgeably present material from all areas of chemical technology to be considered. This project was to allow the instructor to examine each unfamiliar subject by 1) extensive reading from various texts and journals, 2) transformation of material into suitable lectures, and 3) the preparation of useful handouts and visual aids.

The course and instructor were to be evaluated by students during and immediately after the course. A long-range evaluation after students have worked in industry was planned. Dissemination of results were to include sending copies of lecture notes and handouts to interested faculty, and the writing of a paper for a chemical journal.

LATEST REPORT: Handouts were developed and used with the industrial chemistry course taught at UW-Eau Claire in Fall 1981 and 1982. Students were pleased with the course. Additional handouts were prepared during Summer 1982. Overhead transparencies have been developed to accompany the handouts. A full text for this course will be written in Spring 1984.

The Project Director made a presentation on the industrial chemistry course and materials at the American Chemical Society meeting March 29 through April 2, 1982 in Las Vegas. An article on the project has been accepted for publication in the Journal of Chemical Education.

Philip J. Chenier
Chemistry
UW-Eau Claire

UPDATE 8/83 AMOUNT $6,228

DESCRIPTORS
*Chemistry
Faculty Development; Course Development

812002 A

TITLE: A SMALL GROUP DISCOVERY LABORATORY APPROACH TO TEACHING MATHEMATICS TO PROSPECTIVE ELEMENTARY SCHOOL TEACHERS

The project was to redesign the context and the methods of instruction in "Fundamentals of Arithmetic" (Math 180). Math 180, the only mathematics course required for elementary teacher certification, presented several difficulties: students found some content irrelevant or difficult and the instructor found course material hard to teach. In addition, the traditional emphasis of the course, arithmetic calculation, was narrow and other important topics were omitted. In light of these problems, the Project Director set as goals development of a) a coherent rationale for instruction, b) new materials and syllabi, and c) effective instructional procedures.

LATEST REPORT: The Project Director developed a rationale for instruction, selected or wrote instructional materials, and composed syllabi for a set of revised courses (Math 281 and 282). The new courses were proposed for inclusion in the UWGB curriculum, and subsequently approved.

The following instructional goals were set: 1) pre-service teachers would be exposed to a broad view of elementary mathematics curriculum and would appreciate that an understanding of mathematics should be consistent with the aims of general education; and 2) a required course for certification would foster positive attitudes toward mathematics. The format for instruction included both lecture and laboratory activities (experience recommends a mixture of about two periods of laboratory to each period of lecture). Students worked in groups of four or five in laboratory activities, with one instructor for every four groups of students.

Students were asked to compare Math 180 to other mathematics courses without a laboratory, and over 60% felt they learned more in Math 180. Between 70% and 80% of the students indicated they had learned from the laboratory activities.

The Project Director anticipates that the content requirements for preservice elementary teachers will continue to evolve. INACTIVE.

Dan Kalman
Science and Environmental Change
UW-Green Bay

UPDATE 8/85 AMOUNT $4,041

DISCRIPTORS
*Mathematics; *Elementary Education
Laboratory Education

812003 A

## TITLE: TIME DURATION VISUAL MEDIA

"Time Duration Visual Media" are identified as processes which require the passage of time to be perceived and which enable direct control over perception of the passage of time. Examples of such media are film, video, and programmed multi-image projection.

The project was to explore new ways of thinking about, organizing, and providing instruction in film and closely related media and to design and teach a contemporary production course in time duration visual media which integrates both the physical and abstract elements of communication. The new course was intended for students majoring in communication processes, graphic communication, theater, and the visual arts.

LATEST REPORT: The Project Director completed research and course design in Summer 1981 and taught the course in Fall 1981. The course was approved as part of the photography sequence in Communication Processes and Art and continues to be offered alternate fall semesters crosslisted as 246-444 and 168-444. The assigned text is a non-technical text synthesizing past and current thinking about film and related media. Winning institutional technical support for a course that is not media specific has been a problem.

Student response to the course is favorable, and students give high ratings to the contributions of 246-444 to general intellectual development and the ability to think creatively. Graduates have credited the course with supporting their success in areas as diverse as television news photography and museum work. The concepts of the course seem to prepare students to think in new visual technologies not yet available for instruction, and the Project Director has found the time duration visual media concerns dovetail with his continuing investigations of new visual technologies.

Jerry Dell
Communication and the Arts
UW-Green Bay

UPDATE 8/85 AMOUNT $4,686

DESCRIPTORS
*Arts; *Film Studies
Course Development; Laboratory Arts

812004 A

TITLE: AN EVALUATION OF A PEER GROUP SYSTEM FOR BASIC SPEECH INSTRUCTION

In a recent survey, researchers found that college basic speech courses are flourishing to the point that class size and time constraints cause a major problem. The basic speech course must allow ample class time for performances by each student, yet provide sufficient training in the principles required for execution of those performances. In the face of increasing section enrollments, an appropriate "theory/performance" balance becomes difficult to maintain.

The UW System shares the problem. While the average basic speech course enrollment has been 24, respondents in a survey felt that the optimum class size should be 20 or fewer. UW-Green Bay is encountering a particular problem in this respect, with section enrollments increasing from 26-28 in 1979 to 30-32 in 1980. Given virtually no possibility of responding through addition of sections, UW-Green Bay has been forced into undesirable "theory vs. performance" trade-offs.

Under the peer group system proposed by Wiseman and Barker in 1965, a class meets as a unit for lectures and minor activities and in two subsections for major performances. The instructor evaluates major presentations in one subsection, while student peers evaluate in the other. The instructor rotates so that half of any given student's major presentations are evaluated by the instructor, while half are evaluated by peers. The peer group system allows a section enrollment of approximately 44 students. It maintains the strong performance emphasis which typifies basic speech courses, yet actually permits more class time for instruction in principles than that allowed in small conventional classes.

This project will implement and evaluate the peer group system.

PROJECT CANCELLED.

Tom D. Daniels
Communication Processes
UW-Green Bay

UPDATE 8/81 AMOUNT $3,522

DESCRIPTORS
*Communication Arts
Peer Teaching

812005 A

TITLE: A COLLATION OF FINGERINGS IN PEDAGOGICAL LITERATURE FOR PIANO

Carl Philip Emmanuel Bach, considered the source of modern keyboard style, illuminates this project: "More is lost through poor fingering than can be replaced by all good artistry and taste." There is no lack of suggested fingerings in piano literature; rather, the problem is how to make them accessible for undergraduate study.

The Project Director collated the fingerings given in various editions of the same examples of standard literature, particularly literature frequently used pedagogically. The purpose was not to judge which fingering is best, but to expedite such decision-making so that 1) a teacher without a fine and complete library at hand would have a basic resource or 2) so that students would not have to purchase hundreds of dollars worth of music to accomplish the same purpose.

LATEST REPORT: The results of this project were a collation of many editors' fingerings of a given piece of music, presented on one page. Students were carefully selected to do the work of collation using a form and procedure established by the Project Director's earlier work. The final choices of literature to be collated were significant in at least two ways. First, they contained music which is essentially contrapuntal (the Bach inventions), music which is essentially harmonic (the Beethoven sonatas), and music which is a mixture of both (the Chopin preludes). Second, they represented music of concert caliber which is repeatedly given to intermediate or early advanced students. This literature is found often in student recitals and examinations as well as in concert artists' programs.

The finished product will be catalogued at the Mills Music Library at UW-Madison with nationwide access through the OCLC database. Mills Library is willing to make copies as requests are received from University of Wisconsin System institutions. Piano colleagues and librarians within the system are being informed by letter of the nature and the availability of the work.

Ellen O. Burmeister
Music
UW-Madison

UPDATE 8/83 AMOUNT $5,810

DESCRIPTORS
*Music
Audio Tape Recording

812006 A

TITLE: PREPARATION OF LANGUAGE TAPES FOR RUSSIAN 101-102

This project was to improve instruction of elementary Russian 101 and 102. In order to learn correct pronunciation, it is important for all students of foreign languages to be exposed early and often to native speakers. The tapes provided by the publisher of the course textbook were not well planned, and the purpose of the project was to prepare a complete set of Russian language tapes which the students would use and from which they would profit.

LATEST REPORT: The tapes were completed and used during 1981 and 1982 by some 120 beginning Russian language students. As the project personnel hoped, students used the tapes willingly and frequently. Though the course textbook was changed, the tapes were general enough for students' use.

Interested system personnel may contact the Laboratory for Recorded Instruction, 279 Van Hise Hall, UW-Madison, for information on obtaining copies of the tapes. A copy of the tapescript can be obtained from the Department of Slavic Languages, 720 Van Hise Hall, UW-Madison.

Harlan E. Marquess
Slavic Languages
UW-Madison

UPDATE 8/83 AMOUNT $800

DESCRIPTORS
- *Russian
- Audio Tape Recording

812007 A

TITLE: VIDEOTAPED CLINICAL OBSERVATIONS IN OCCUPATIONAL THERAPY

Occupational Therapy 100, "Orientation to Occupational Therapy," is a one credit survey course which is open to freshman non-majors and majors. One of the course objectives is to allow students to observe an occupational therapy clinical program.

Local clinical programs in occupational therapy have reached and exceeded their capacity to offer observation for beginning students, yet the faculty do not wish to discontinue them as a course requirement.

To solve this problem, six color videotapes were to be produced which show typical occupational therapy clients in an ongoing evaluation or treatment situation. The project was to be evaluated during 1981-82 and a new evaluation tool for use in grading papers in a more specific way was to be designed as part of the project.

LATEST REPORT: The five completed videotapes are on reserve at the Health Science Library at UW-Madison and are utilized by students enrolled in the course to observe direct practice of occupational therapy. Many students choose to view more than one tape. Students write a short paper based on this observation. The results have been highly positive. Student papers are more descriptive and show a better comprehension of the taped situation than of the unstructured live observations which were formerly done. A more objective grading system has been developed by the instructor for evaluation papers and is working well.

The first videotape produced as a result of the grant was shown at a Media Fair at the Wisconsin Occupational Therapy Association Fall Conference, October 1981, and again at the National Occupational Therapy Conference, April, 1982.

The videotapes produced for this project continue to be used for student observations of occupational therapy practice for the O.T. 100 course. They are available for purchase through the University Center for Health Sciences, Office of Educational Resources. To date, copies of the tapes have been purchased by Madison Area Technical College, the North Dakota State School of Science, St. Mary's Junior College, and the Stonybrook Foundation.

Alice J. Punwar
Occupational Therapy
UW-Madison

UPDATE 8/85 AMOUNT $5,460

DESCRIPTORS
*Occupational Therapy
Audio Visual TV Taped; Clinical Training

812008 A

TITLE: VISUAL AIDS FOR CURRICULAR DEVELOPMENT IN GERMAN CULTURE STUDIES

The German Department has initiated a BA program in German culture studies which supplements the established degree programs in German literature and secondary education.

The quality of instruction in each of the six German culture studies courses and in the overall BA program is significantly improved by the use of slides, ranging in subject matter from maps, charts, and graphs to paintings, works of architecture, and historical photographs. The purpose of this project was to build a collection of 2,000 slides.

The success of the project was to be evaluated by supplementing the regular course evaluation form employed by the German department with a battery of qualitative and quantitative questions concerning the usefulness of slides as curricular aids.

LATEST REPORT: The entire set of 2000 slides has now been photographed. About 1,000 have been labeled and divided into sets, while the remainder have yet to be classified. The slides have been employed in sessions of all six culture courses currently offered by the German Department, and student response has been overwhelmingly favorable to the use of visual aids. Use of the slides in these courses has also touched off an increased use of slides in other courses, such as language and literature courses.

James D. Steakley
German
UW-Madison

UPDATE 8/83 AMOUNT $3 743

DESCRIPTORS
*German; *Teacher Education
Visual Slides

812009 A

TITLE: FACILITATING ACCESS TO TEACHING MATERIALS IN BRAILLE FOR BLIND STUDENTS AND STAFF

UW-Madison has installed a braille computer terminal, the only one of its kind in the UW System, for use of both blind students and staff. The terminal is capable of preparing braille notes, text books, exams, etc.--almost any kind of braille document--with the help of an appropriately programmed computer. The Project Director developed such a computer program and made it accessible on a self service basis to all UW System staff to allow them to share this braille printer. The service was designed to reduce significantly the delays students face in getting brailled course materials.

LATEST REPORT: Software for the braille computer terminal is currently available and being used on the Madison campus. For example, the project has twice facilitated the preparation of final exams by a UW-Madison law school professor for a blind student.

The Project Director has written a guidebook to the software, entitled "Producing Braille With a Computer; A Guide for People Who Fear Computers." The needs of blind students are discussed, along with the resources available at UW-Madison: a Triformation LED/120 braille printing computer terminal and a Grade 2 braille translation program which runs on a UNIVAC 1100/80 computer. The report is written for the benefit of people who are not necessarily conversant with computer technology.

The guidebook and a technical report on the project are available from the Project Director.

Edouard J. Desautels
Computer Science
UW-Madison

UPDATE 8/83 AMOUNT $3,185

DESCRIPTORS
*Disability; *Braille
Computer Multiple Applications; Student Services

812010 A

TITLE: MICROCOMPUTER-BASED INTRODUCTION OF COMPUTER GRAPHICS FOR THE UNDERGRADUATE

The application of the computer to graphic design and analysis of three dimensional problems in descriptive geometry has become common practice in the engineering profession. Undergraduates in engineering take courses in descriptive geometry, computer science, and analytical geometry, yet do not have access to a course which applies all three to interactive design by computer. The purpose of this project was the development of computer software and ancillary videotape materials to implement an introductory course in computer graphics. A secondary objective was to test the feasibility of using low cost microcomputers and associated videotapes for computer graphics instruction of undergraduates.

Student knowledge of computer graphics was to be tested at the beginning and end of the course and the results used for course evaluation. Other forms of evaluation were to be conducted by the course instructors and engineering faculty at large.

LATEST REPORT: The course has been taught two semesters with enthusiastic response from students. Even some faculty members took this popular course.

As a result of this project, the Project Director is designing a new course. He has shared information from the grant experience with other UW System faculty. The Madison Campus Microcomputer Users Group (MUGS) has toured the computer graphics laboratory set up as a result of this grant. An open invitation is extended to other interested system faculty to take a tour or receive technical assistance from the Project Director.

James J. McNeary
General Engineering
UW-Madison

UPDATE 8/83 AMOUNT $8,676

DESCRIPTORS
*Engineering
Computer Graphics; Audio Visual TV Taped

812011 A

TITLE: LITERACY, DEVELOPMENT, AND SOCIAL CHANGE: NICARAGUAN CASE STUDY

The purpose of the project was to produce a four part videocassette series on the national literacy campaign conducted in Nicaragua as that campaign related to radical social change and economic development in Third World societies.

LATEST REPORT: Twenty hours of videotape were shot in the areas of Manaqua, Masaya, Rama, and Bluefields in January, 1982. After more than two months of logging materials, it was decided to produce three videotape programs rather than the proposed four. The first was a one hour program, AND ALSO TEACH THEM TO READ, a historical treatment of the subject that seeks to establish the societal context in which literacy is a priority of social and economic development. The second one hour program, FIVE MONTHS THAT CHANGED A NATION, documents the conception and the implementation of Nicaragua's national literacy crusade. An introductory thirty minute program, NICARAGUA, 1982, is an encounter with the images and sound with no narration; the student is encouraged simply to look and listen, and then discuss his or her perceptions of a Third World society.

The programs were shown in a number of courses at UW-Milwaukee, at other campuses in the University of Wisconsin System, and across the country to academic, community, religious, and other audiences. The usable classroom life of the programs is projected for at least 8 to 10 years. Since 1983, the tapes have been seen internationally.

The program, FIVE MONTHS THAT CHANGED A NATION, was awarded the 1983 Silver Medal in the International Film and Television Festival of New York, and also won the Pacific Coast Council of Latin American Studies 1983 Award for Best Film or Videotape.

The Center for Latin America at UW-Milwaukee is the principal unit for housing, promoting, and distributing the programs. Contact Bill Jarrett, Center for Latin America, at UWM for availability.

Russell H. Bartley
History
UW-Milwaukee

John B. Gray
Educational Communications Division
UW-Milwaukee

Richard L. Cummings
Cultural Foundations of Education
UW-Milwaukee

James Otis Smith
Sociology
UW-Milwaukee

UPDATE 8/85

AMOUNT $12,170

DESCRIPTORS
*Social Sciences; *Latin American Studies
Audio Visual TV Taped

812012 A

TITLE: THE GLOBAL NEGOTIATION EXERCISE

The most apparent shift in world politics in recent years has been the relative decline in importance of political/security affairs and the concomitant rise of economic and scientific problems. The basis for this change can be found in two developments: 1) the break-down of the postwar economic consensus between the United States and other northern industrialized nations; and 2) the historical process of decolonization and the accompanying rise in economic problems of the newly independent nations of the globe's southern hemisphere.

In January 1981, the United Nations (UN) served as the setting for the first in a possible series of "Global Negotiations" designed to revitalize and expand the North-South debate about world economic arrangements. The Project Director will create an interactive simulation entitled the Global Negotiations Exercise. The core of the exercise will be an actual negotiation (modeled after the proposed UN negotiations) focusing on a closed agenda of six economic/scientific issues (control of multinational corporations, trade and industrialization, energy, food, etc.) or areas of potential cooperation between northern and southern nations. The objective of the exercise will be to produce a final agreement or no agreement regarding specific policy initiatives on each of the issues. Students will assume the role of a northern or southern nation or one of three organizational roles.

After gathering and organizing a variety of documents and other materials and following a test run of the design, a final written version of the exercise will be produced. The final product will be an instructor's kit to include a scenario, descriptive information on roles, actors, individual issues, game rules and procedures, bibliographies of supplementary materials, and an evaluation instrument.

PROJECT CANCELLED

Lawrence V. Gould
Political Science
UW-Milwaukee

UPDATE 8/81 AMOUNT $3,914

DESCRIPTORS
*Political Science; *Social Sciences
Simulation Game

812013 A

TITLE: COMPUTER ASSISTED INSTRUCTION IN MUSIC THEORY

Computer assisted instruction (CAI) has advanced rapidly with the advent of the microprocessor. It has proved to be particularly effective in meeting the special interests and needs of the serious music student. Microcomputers, such as the Apple II Plus, can now provide a dependable sound source up to 16 voices and several different timbres when connected with accessory equipment.

The UW-Oshkosh Music Department has established an ear training laboratory to provide students with access to drill and practice programs encompassing a variety of aural concepts. The Project Director planned to work with the UW-Oshkosh music theory faculty to establish a semester-by-semester sequence of CAI ear training lessons to supplement and reinforce the aural concepts presented in the classroom.

LATEST REPORT: Ear training lessons for Apple II Plus music systems have been written and are used on a limited basis. Regular student use of the music programs is limited only by current lack of access to microcomputers. Until every student is able to use the machine a minimum of thirty minutes per week, there cannot be required use. Music students, however, use the ear training programs as often as possible.

The Project Director has shared the completed programs in three ways: 1) at workshops for UW-Oshkosh faculty and area music instructors sponsored by the UW-Oshkosh Teaching Excellence Center; 2) through sample programs taken to the Oshkosh public schools; and 3) at NSF funded workshops in music education for the Mathematics Department.

Plans for continuation include writing additional programs in ear training and in music fundamentals. Faculty development will also be encouraged, beginning with an interim "Faculty College" for music theory instructors.

Ear training programs developed under this project are available to all other System universities equipped with compatible music microcomputer systems.

John M. Minniear
Music
UW-Oshkosh

UPDATE 8/83 AMOUNT $9,142

DESCRIPTORS
*Music
Computer Autotutorial; Computer Managed Instruction; Laboratory Arts

812014 A

TITLE: SIMULATIONS OF CLINICAL SITUATIONS IN NURSING

Simulations of clinical reality offer available and repeatable approximations of patient encounters. Project Directors planned videotapes, case studies, and computer simulations/games for nursing students on the following subjects: 1) normal life experiences occurring at different developmental stages, 2) incidents of health alterations occurring in various ages throughout the life span, 3) the five stages of the normal pregnancy cycle, and 4) childbearing.

LATEST REPORT: A videotape, "Body Image in Health," includes five audiovisual vignettes and an accompanying instructional guide. A series on illness (health alterations) includes a videotape entitled "Body Image, Alterations in Health," one audiotape, five clinical case studies, and accompanying instructor's guide.

With the assistance of computer services, a computer program was written which presents three levels of competency in providing anticipatory guidance in childbearing situations. A resource person from the Teaching Excellence Center critiqued the program. "Birth Puzzle" is available on the DEC 11/70 computer. The second computer assisted instructional program, "Anticipatory Guidance, the Cornerstone of Childbearing Health," has been completed and will be loaded on the DEC 11/70 during Fall 1982.

The project reached approximately 350 students during 1981 and 1982. Approximately 80 students per semester will be exposed to each simulation package in the future. Based on faculty and student evaluations, there are no anticipated changes in the completed materials. Distribution of the software outside the local area was being explored.

The videotape, "Body Image in Health," received honorable mention in the National Media Festival sponsored by the American Journal of Nursing's Educational Services Committee. Both videotapes were exhibited at the Wisconsin Nurses' Association Clinical Sessions at La Crosse, October 7 through 9, 1982.

| | |
|---|---|
| Margaret Coluccielio<br>Nursing<br>UW-Oshkosh | Barbara Prybyski<br>Nursing<br>UW-Oshkosh |
| UPDATE 8/83 | AMOUNT $6,606 |

DESCRIPTORS
*Nursing
Audio Visual TV Taped; Computer Simulation; Case Studies

812015 A

TITLE: WISCONSIN-BASED CURRICULUM IN ENVIRONMENTAL GEOLOGY

Environmental geology is the study of geologic materials and processes as they affect the human environment. The introductory level courses in environmental geology offered at seven UW System campuses constitute part of the liberal arts education of many Wisconsin residents. The Project Director planned to develop a Wisconsin based curriculum in environmental geology which addresses 1) disposal of solid and hazardous wastes in landfills and 2) disposal of nuclear wastes in deep crystalline rock deposits.

Information about solid and nuclear waste disposal in Wisconsin exists, but not in a format readily accessible to faculty members. The Project Director gathered background material from files and publications of state and federal agencies and composed a curricular package of salient background documents for each topic.

LATEST REPORT: After research and interviews at the Wisconsin Department of Natural Resources and the Wisconsin Geological and Natural History Survey, the Project Director made a study of groundwater contamination resulting from a municipal solid waste landfill located near River Falls, Wisconsin.

Ten packets of materials were distributed to interested UW System faculty members. They consist of a short analysis of the current status of solid and hazardous waste disposal issues in Wisconsin; a case study, with slides, of a groundwater contamination problem resulting from a landfill; published materials on toxic and hazardous waste disposal; a short analysis of high level nuclear waste issues in Wisconsin; and published materials on disposal of nuclear waste.

Materials gathered under the project are integrated into the curriculum of an existing course taught by the Project Director. About 450 undergraduate environmental geology, hydrogeology, and/or engineering geology students were reached during 1982-83.

C. W. Fetter, Jr.
Geology
UW-Oshkosh

UPDATE 8/85 AMOUNT $4,963

DESCRIPTORS
*Geology; *Environmental Studies
Course Development; Visual Slides

812016 A

TITLE: COMPUTER SIMULATIONS IN MATHEMATICS

The major objective of this project was to collect and develop a small library of computer demonstrations and simulations for use in the undergraduate mathematics program at UW-Parkside and other UW System campuses. This collection would begin with programs appropriate for courses in probability and statistics, and in mathematical modeling. Listed would be microcomputer programs which could be easily brought into the classroom and easily incorporated into the lecture.

In addition to collecting computer programs, the Project Director was to contribute to the library by writing Apple II microcomputer programs for use in specific courses.

An index to the library collection was to be prepared and sent to all UW System mathematics and statistics departments. Each user was to be asked to provide critical feedback for evaluation of the project.

LATEST REPORT: The math modeling project is completed. Copies of the Apple II programs are available and will be sent to those who request them. Many copies of the two Apple disks have already been sent to System faculty.

The eight page directory to a System library of probability and statistics programs entitled "University of Wisconsin System Microcomputer Software Exchange," available on two disks, is also complete. The directory lists program title, author language, and a description of the program and what it can do. Programs are self-documenting. Probability programs for elementary courses or individualized learning are still being developed.

Donald T. Piele
Mathematics
UW-Parkside

UPDATE 8/83 AMOUNT $5,423

DESCRIPTORS
*Mathematics; *Statistics
Computer Simulation; Computer Graphics

812017 A

TITLE: IMPROVING STUDENTS' ABILITY TO READ AND PLAY SCORE-FORM MUSIC AT THE PIANO

Although the ability to read music fluently is essential to every musician, and the ability to play music at the piano is basic to a musician's development, a weakness of many musicians and music educators is the inability to play music at the piano written in score form. Few teaching materials exist which adequately prepare the music student for coping with full score at the keyboard.

The purpose of this project was to develop a sequence of music material that will logically and systematically develop the student's ability to read and play score form music at the piano. The project was to consist of writing a series of two, three, four, and five part scores. Successive compositions would increase in difficulty and reflect problems frequently encountered in the complex reading and playing process.

LATEST REPORT: The original scope of the project was enlarged from developing a manual to putting the expanded material into a book format. The finished book includes 94 musical compositions, text, explanatory material, preface, foreword to teachers, and a note to students.

The Project Director used the textbook in the course "Keyboard Musicianship" during Spring 1982. The effectiveness of the new teaching material was measured at the end of the semester by means of a competence test. All the students (a total of 18) taking the competence test passed it successfully. Results showed that the quality of performance in score reading was high. Student response to the book was enthusiastic. The volume not only has a clear and convincing explanatory text, but is attractive in layout and typography. The high degree of legibility of the music score aids in the student's reading process.

Copies of the book are available to other keyboard instructors in the UW System who wish to examine it for pedagogical evaluation.

Frances Bedford
Music
UW-Parkside

UPDATE 8/83 AMOUNT $6,648

DESCRIPTORS
- *Music
- Textbooks

812018 A

TITLE: MODERN INORGANIC CHEMISTRY IN THE LABORATORY

This project focused on the design and implementation of an advanced undergraduate laboratory course which will prepare chemistry majors and minors for their careers. The project undertook a modification of the third quarter of the Advanced Chemistry Laboratory Sequence (Chemistry 403).

The project consisted of a number of macroexperiments. The macroexperiments have been chosen to illustrate the areas of inorganic chemistry which are of greatest importance to modern society. The major advantage of the format chosen is that while it is not possible for a student to go through all of the aspects of an experiment that would be required for a thorough understanding, it is possible for several students to cover all aspects. Interactions between the students in a post experiment discussion were planned to give all of the students an understanding of the different aspects of the experiment.

LATEST REPORT: A series of four macroexperiments covering many aspects of inorganic chemistry has been developed: 1) the synthesis and characterization of an oxalate complex; 2) the study of some bioinorganic models; 3) the synthesis and characterization of some metallocenes; and 4) the synthesis and characterization of some solid state materials. In addition to the experiments, the Project Director wrote a freshman chemistry experiment on coordination chemistry and developed new methods of synthesizing some of the compounds.

As yet, not enough students have used the experiments to draw any long range, statistically valid conclusions. However, student response was generally favorable.

Each of the experiments has been written as a laboratory handout. In addition, many of the experiments have been submitted for publication.

Richard H. Langley
Chemistry
UW-River Falls

UPDATE 8/83 AMOUNT $5,951

DESCRIPTORS
*Chemistry
Laboratory Sciences; Course Development

812019 A

TITLE: AN INTERDISCIPLINARY PROGRAM FOR THE REINFORCEMENT OF WRITING SKILLS ACROSS THE CURRICULUM

This project builds upon a successful program at UW-Stevens Point. The program provides a highly effective and coordinated approach to the training of university faculty, who will develop or adapt writing emphasis courses in their home departments. These writing emphasis courses will provide an upper division writing reinforcement component for majors and will satisfy the university's upper division skills proficiency requirement.

LATEST REPORT: During Summer 1981, twelve faculty members from eleven departments attended a two week seminar on the teaching of writing. The first week provided a conceptual base; the second week emphasized practical applications. In Fall 1981, each content area instructor was teamed with an English department instructor who provided personal assistance in framing individual assignments and in planning overall assignment strategies. Throughout the year after the summer training, both content area and English department instructors attended follow up seminars and inservice staffings which reinforced the training.

To date, 138 faculty, representing 22 of the 23 departments on campus, have successfully completed the Writing Emphasis Seminar. All 138 faculty either have taught, are teaching, or are scheduled to teach writing emphasis courses. Each semester, approximately 85 sections of writing emphasis are offered to students.

The Writing Emphasis Program has spawned several offspring, notably the Writing Intensive Program at St. Mary-of-the-Woods College in Indiana and the Writing-Across-the-Curriculum Program at UW-Oshkosh. The Project Director has given many workshops on the UWSP model and has spoken often at regional and national conferences.

The most recent evaluation of the Writing Emphasis Program was highly positive. Faculty and students alike praised the attempt to reinforce writing skills across the curriculum.

Donald J. Pattow
English
UW-Stevens Point

UPDATE 8/85 AMOUNT $8,100

DESCRIPTORS
*Basic Skills English Composition; *Faculty Development
Faculty Development

812020 A

TITLE: HIGH PERFORMANCE LIQUID CHROMATOGRAPHY LABORATORY EXPERIENCES IN ENVIRONMENTAL CHEMISTRY, FOOD CHEMISTRY, AND INSTRUMENTAL ANALYSIS

High performance liquid chromatography (HPLC) is a tool of analytical chemistry which has been developed to a high degree of sophistication during the past decade. HPLC is used quantitatively to determine organic components in a liquid medium. It has numerous applications in the analysis of foods, animal and plant tissue, water, drugs, and industrial materials.

This project was designed to support and complement an NSF Instructional Scientific Equipment grant for the purchase of HPLC instrumentation, through the development of new analytical experiments for three undergraduate courses: instrumental analysis, food chemistry, and environmental chemistry.

LATEST REPORT: Four HPLC experiments were developed: the determination of sugars in food products by HPLC; detection of pesticides in agricultural runoff water by HPLC; determination of polychlorinated biphenyls in transformer oil; and HPLC determination of caffeine and related alkaloids in common beverages. Further experiments, including one on water soluble vitamins in foods, are planned.

Based upon present enrollments, about 50 students will participate in the experiments each semester. In addition to its use in courses, the HPLC instrument is operated nearly every day of the week by students and instructors working on special projects.

A copy of the environmental chemistry laboratory manual is available for dissemination. The manual was distributed at the UW Chemistry Faculties Meeting in Eau Claire, October 8, 1981. The Project Director will serve as a resource person for individuals interested in HPLC.

To date, two publications have resulted from this project: "Environmental Chemistry Laboratory Manual" (UW-Stout, copyright 1981) and "Sugar Determination in Foods with a Radially Compressed High Performance Liquid Chromatography Column," M.G. Ondrus, J. Wenzel, G.L. Zimmerman, accepted for publication in Journal of Chemical Education.

Martin G. Ondrus
Chemistry
UW-Stout

UPDATE 8/83 AMOUNT $3,101

DESCRIPTORS
*Chemistry
Laboratory Sciences

812021 A

TITLE: HUMANITIES DISCUSSION BOOKLETS FOR AMERICAN HISTORY SURVEY CLASSES

Most history professors instruct their students by means of lectures, films or slides, tests, term papers, and discussion. Discussion is often the most difficult method to master. History discussion classes are seldom as active and stimulating as they should be.

The biggest problem is the nature of discussion material itself. The solution to be pursued in this project is to develop five high quality discussion booklets focused on important themes in United States history.

The discussion using the booklets provides students a purposeful content and the opportunity for confident self expression and thoughtful listening. At the end of each semester students evaluate the booklet/discussion by means of an essay evaluation and a quantifiable evaluation form. In addition, the Center System History Department conducted a peer evaluation of a discussion.

LATEST REPORT: Five humanities discussion booklets have been completed; themes of the 11-15 page booklets are: "Images of Women," "Working: Alienation and Fulfillment," "Poverty and Welfare," "Technology and Culture," and "The American Family." The five booklets were used successfully to generate discussion in a UWC Fox Valley history survey course in Spring 1982. (A sixth booklet, on unique features of the American experience, is under production.) The Project Director presented a paper on the discussion booklets at the Wisconsin Conference on the Teaching of History, November 14, 1981 at UW-Stevens Point. Thirty copies of each discussion booklet are on reserve in the UWC Fox Valley campus library.

Michael O'Brien
History
UWC Fox Valley

UPDATE 8/83 AMOUNT $5,886

DESCRIPTORS
*History
Discussion Techniques

812022 B

TITLE: PRODUCTION OF AN AUDIO-VISUAL SLIDE PRESENTATION ON THE METHODOLOGY OF SAMPLING OF ORGANIC VAPORS FROM AIR OF THE WORKING ENVIRONMENT AND ANALYSIS BY GAS CHROMATOGRAPHY

The presence of many varieties of airborne organic vapors in the workplace is known to be the major cause of many health problems among exposed workers. Because of this, particular attention has been paid to the instruction of undergraduate students of health related fields in sampling and analysis of air contaminants.

The objective of this project is to facilitate instruction of students and laboratory technicians in the complicated analytical procedures of sampling and analysis of airborne organic vapors. This will be accomplished by production of an audio visual slide presentation that will provide a step by step description of sampling and analytical procedures for undergraduate students of the industrial and environmental hygiene major at UW-Parkside and the environmental health program students at UW-Eau Claire.

LATEST REPORT: The slide tape program was completed during Summer 1982 and evaluated in Spring 1983.

The first step in the project was the preparation of the script, which includes explanations of 71 slides. Arthur Jones of National Public Radio narrated.

Four copies of the audiovisual presentation will be at the UW-Parkside and UW-Eau Claire libraries and the Industrial and Environmental Hygiene Program at Parkside. UW System faculty may request copies at cost. UW-Parkside is submitting the presentation for copyright in the name of the UW System Board of Regents.

Behzad Samimi
Industrial and Environmental Hygiene
UW-Parkside

Robert Nelson
Environmental Health
UW-Eau Claire

Karl Erickson
Environmental Health
UW-Eau Claire

UPDATE 8/83

AMOUNT $5,328

DESCRIPTORS
*Health Sciences; *Environmental Studies
Audio Visual Multimedia; Laboratory Sciences

812023 B

TITLE: UW-MADISON/UW CENTERS/UW-STOUT/WOMEN'S STUDIES SEMINAR: A PROJECT FOR CURRICULAR AND PEDAGOGICAL ENHANCEMENT

The project was designed to introduce women's studies material to UW Center and UW-Stout faculty for integration in their courses during 1981 and 1982. The UW-Madison Women's Studies Program offered a 3-week seminar to provide a background for designing interdisciplinary courses in women's studies and for integrating women's studies content and methodology into humanities courses.

LATEST REPORT: The seminar, held during Summer 1981, consisted of class sessions, special activities such as speakers and films, and work with a UW-Madison faculty mentor in each participant's field.

UW Centers' participants reassembled with seminar leaders in Spring 1982 to evaluate the seminar, identify how seminar material had been used in courses, and discuss continuing problems and future possibilities for expanding women's studies offerings.

Changes which participants reported included a larger number of assignments focused on women; works by women added to courses, especially in literature; and greater emphasis on issues of specific concern to women. Also new courses have been developed.

Though the primary focus of the project was on curricular development, all the participants noted a strong effect of the seminar on their research as well. Another result of the project is the creation of a formal structure for interdisciplinary women's studies courses within the curriculum of the UW Centers.

Although Stout was not included in the follow-up evaluation of this project, its effects were apparent in the development of both the psychology of women and women and the law courses. The earlier project also formed a base for Stout's present faculty development project on gender-balancing the curriculum.

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|---|---|
| Elaine Marks<br>Women's Studies Program<br>UW-Madison | Richard Berke<br>UWC Rock County<br>UW Centers |
| Wesley Face<br>Vice Chancellor<br>UW-Stout | |
| UPDATE 8/85 | AMOUNT $12,414 |

DESCRIPTORS
*Women's Studies; *Faculty Development
Faculty Development; Course Development

812024 C

TITLE: CENTER FOR THE IMPROVEMENT OF INSTRUCTION

The project created a campus level Center for the Improvement of Instruction to provide a wide range of faculty development services, including dissemination of information, peer counseling, orientation sessions for teaching assistants and new teachers, advice on grants and presentation of special program.

LATEST REPORT: The Center has continued to prosper in its second year. Working with the vice chancellor's office, the Center has provided review and coordination of grant proposals on teaching improvement, planning for UW System faculty development conferences, and representation to the Undergraduate Teaching Improvement Council. Center activities for the second year included orientation for new and continuing teaching assistants in the fall, a series of five campus-wide Teaching Enhancement Workshops in January, and co-sponsorship of programs on Learning Assessment and Writing Improvement. The Center coordinated a campus visit by program officers from the National Endowment for the Humanities, who described the new education program guidelines. The coordinator is currently working with a group of faculty to prepare a substantial proposal for submission to the endowment. Fourteen UTIG proposals were reviewed under the Center's coordination; of the six forwarded to the System Review Committee, a record number of five was funded. The coordinator helped draft a System proposal to the Lilly Endowment for Post-Doctoral Teaching Fellowships and will work closely next year with the ten Fellows, three of whom are from the Milwaukee campus. Resource materials on faculty development and improvement of instruction may be borrowed from the Center's growing library. Database research on aspects of teaching is also available for individual faculty who consult the Center.

The Center will continue to operate and foster teaching improvement activities during 1983-84.

Robert Gernant
Center for Teaching Excellence
UW-Milwaukee

UPDATE 8/83 AMOUNT $20,000

DESCRIPTORS
*Faculty Development
Faculty Development; Teaching Assistant Training; Centers

812025 C

TITLE: PILOT TEACHING EXCELLENCE CENTERS

This project was designed to expedite the maximum use of institutional resources for the improvement of instruction at UW-Oshkosh. A team of faculty members, each with an outstanding record of undergraduate teaching experience, staff a pilot teaching excellence center. The Center organizes conferences, workshops, and other activities to inform the faculty of the available institutional support services and to demonstrate their use in specific teaching situations. The Center's staff will upon request also provide faculty with consultation services.

Center activities are coordinated with the UW-Oshkosh Faculty Development Program. The Faculty College Component funds the Center's workshops and conferences. The Curriculum Development Component funds individual or small group projects through Faculty Development Program grants.

LATEST REPORT: The Center has conducted a number of formal faculty development sessions (20 workshops, five at the request of the College of Nursing), provided one to one confidential consultation to approximately 15 faculty seeking help with their teaching or classroom issues such as cheating and discipline; provided technical assistance with teaching improvement proposals for internal and external funding; and disseminated information about teaching. The entire campus community received the TEC NEWSLETTER (five issues), A HANDY GUIDE TO UW-OSHKOSH CAMPUS RESOURCES IN SUPPORT OF CLASSROOM ACTIVITIES, and a bibliography of the Polk Library/Learning Resources Center holdings on topics about teaching. An informal series of Brown Bag Lunches and Breakfast Coffees was initiated to foster exchange of ideas and experiences about teaching among UW-Oshkosh faculty.

In addition to the UW-Oshkosh Faculty Development Program, the Center has established and enjoyed joint relationships with the Library/Learning Resources Center and the College of Nursing. Project staff feel that the Center has had an enthusiastic response from faculty its first year. The Center has received administrative support and funding for continuation.

Paul Johnson
Teaching Excellence Center
UW-Oshkosh

UPDATE 8/83 AMOUNT $20,000

DESCRIPTORS
*Faculty Development
Faculty Development; Centers

# GRANTS AWARDED

## 1982 - 83

823001 A

TITLE: THE DEVELOPMENT OF AN INTERDISCIPLINARY COURSE IN THE HISTORY OF GRAPHIC DESIGN AND COMMUNICATION

The intent of this project was to design a course covering the history of graphic design and communication to be placed into the interdisciplinary programs of students pursuing careers in graphic communication. The course would further enhance the interdisciplinary nature of the program by involving itself with the history of technologies, or marketing and management decisions, of artists and designers, and of social, cultural, and political events important to the production of graphics. The course was to follow the slide lecture format with the addition of discussion periods and guest speakers.

The success of the project would depend on accumulation of teaching tools, primarily slides. The unique Grassl Collection located in Menominee, Michigan, was the source of instructional slides for the course.

LATEST REPORT: The sorting and duplication of the slides for the course, "A History of Graphic Design and Communication," is still in progress. Research into areas beyond the framework of the works of Catherine Grassl also continues. Poster design, technological changes in the industry, current trends, and the effects of technology on graphic design are other topics to be covered in the course. The course will be offered in Spring 1988 and enroll 80 to 90 students each calendar year.

Evaluation will take the form of course and peer ratings and course comment questionnaires.

The collection of over 5,000 slides will become part of the University's library collection. Once these materials become available, a chronological text may also be prepared. Publications developed form the material in the Grassl slides would appear in trade journals, books, and other such publications.

Evelyn Teikari
Graphic Communication
UW-Green Bay

UPDATE 5/84 AMOUNT $8,886

DESCRIPTORS
*Art; *Interdisciplinary; *Graphics
Visual Slides; Course Development

823002 A

TITLE: IMPROVEMENT OF INSTRUCTION FOR DEVELOPMENTAL PSYCHOLOGY: A MODEL USING VIDEOTAPES FOR FIELDWORK TRAINING

This proposal involved production of instructional videotapes for fieldwork experience related to five developmental psychology courses (life span, child, adolescent, adulthood and aging, and advanced developmental) enrolling approximately 1,100 students each year.

Four fieldwork training tapes were developed to teach students observational skills (observing and recording behavior, collecting data, keeping a journal) and interview techniques (establishing rapport, determining format, ordering and working of questions), and to achieve a predetermining format, ordering oral and written examination, prior to beginning fieldwork. Fieldwork training tapes can clearly communicate a set of competency based skills to be refined later in actual placement settings and in structured exercises.

LATEST REPORT: Four training tapes were prepared: "Developing Interview Skills," "Interview Competency Tape," "Developing Observational Skills," and "Observational Competency." Procedures require that students stop at several points during the viewing of the tapes to respond to questions presented within the tape. For that reason and because the number of tape machines and monitors is limited, the tapes are best used by large numbers of students in group sessions. Although fieldwork is no longer a requirement, it is hoped that the tapes prove to be of substantial assistance to those who engage in fieldwork in the next several years.

The results of this project were presented at the Second Annual Meeting of the Wisconsin Association of Psychologists in October, 1983.

Harry W. Gardiner
Psychology
UW-La Crosse

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| UPDATE 5/84 | AMOUNT $5,000 |

DESCRIPTORS
*Psychology
Field Studies; Audio Visual TV Taped

823003 A

# TITLE: IMPROVEMENT OF LEVEL OF UNDERGRADUATE INSTRUCTION IN NEUROPHYSIOLOGY (VETERINARY SCIENCE/MEAT AND ANIMAL SCIENCE)

The objective of the project was to upgrade the standard of undergraduate teaching in VS/MAS 301, "Physiology of Domestic and Laboratory Animals." The course is aimed at teaching the basic principles of systemic physiology in animals. The specific area of teaching in need of improvement was the neurophysiology laboratory section, consisting of three laboratories including two on basic properties of nerves.

LATEST REPORT: The upgrading and modifying of the neurophysiology laboratories was carried out during Fall 1982 through use of a series of videotapes on how to dissect the frog nerve and to use the oscilloscope, produced for this project. Another tape showing preparation of the nerve/muscle was used in another laboratory. Previewing the tapes greatly increased student interest in the laboratory exercises and their performance. Beginning in 1983, students were required to answer a short quiz designed to test their knowledge of the content of the videotapes and precautions to be followed. The greater understanding of the principles of neurophysiology resulting from the new and reorganized laboratory exercises was reflected in better examination scores for a sizeable segment of the class.

The videotapes were presented at a meeting of the UW System biology faculty. The group was enthusiastic and as a result of their interest in the use of the tapes, the materials are now available through campus interlibrary loan. This project is still active, since materials are being used for instruction each fall.

Other laboratory exercises may be modified to make use of the new oscilloscopes. The Project Director is planning to build a system to allow a temporary hookup to be made using one machine as a master to drive the remaining ones so that selected data can be patched in to each group of students. He is also planning the purchase of minicomputers so data can be stored in a memory for continuous display of sequential events on the oscilloscope screens. This modification is on hold pending availability of funds to allow construction of necessary ancillary equipment.

Barry D. Bavister
Veterinary Science
UW-Madison

UPDATE 8/85 AMOUNT $3,080

DESCRIPTORS

*Meat and Animal Science; *Veterinary Science; *Agricultural Sciences
Laboratory Sciences

823004 A

TITLE: DEVELOPMENT OF VIDEOTAPES FOR BASIC LOOM WEAVING

Learning to weave well requires learning a complex series of important steps. Once learned, they are very logical, but it is almost always confusing for beginners.

The proposed solution to this problem was to develop an instructional videotape and manual.

LATEST REPORT: A fifty-minute videotape on basic loom weaving has been prepared that represents all phases of the weaving process. The series consists of two to ten minute segments, each dealing with one common technical question or problem such as "Dressing the Loom: Winding On." A title was given to each segment for easy access.

The tape and accompanying manual allow students to seek an immediate reference at any time. After the initial explanations and classroom demonstrations by the instructor, very little additional instruction time is needed for repetitive basic questions. This has allowed for more time spent with individual students in developing design and aesthetic concerns which are not part of the manual or tape.

Student evaluations based on the use of the tape for Fall 1982 classes showed a favorable attitude toward the immediate and accurate information available both during and outside of class periods.

As an educational tool, this tape seems to be even more effective than anticipated. The tape would be useful in any beginning weaving class and is sufficiently detailed so that it could be used for self instruction.

The Project Director presented the materials at the April, 1984 Conference of the Art Education Association. For more information about the tape and the manual, contact Joyce M. Carey, School of Family Resources and Consumer Sciences, 1300 Linden Dr., Madison, WI, 53706 (608/262-2312). The manual will be typeset and revised, and the manual and tape will be distributed through Handweaver's Guild of America (publisher of largest circulation weaving publication, Shuttle Spindle and Dyepot).

Joyce Marquess Carey
Environment, Textiles and Design
UW-Madison

UPDATE 8/85 AMOUNT $5,971

DESCRIPTORS
*Arts; *Textiles
Audio Visual TV Taped; Laboratory Arts

823005 A

## TITLE: ORIENTATION WORKSHOP TO TRAIN TEACHING ASSISTANTS IN UW-MADISON'S FOREIGN LANGUAGE DEPARTMENTS

The purpose of this project was to organize a voluntary one-week intensive training program for new and experienced teaching assistants in UW-Madison's foreign language departments. TA's are usually responsible for teaching most of the first four semesters of language courses. Training for effective teaching is crucial because of the large numbers of students TA's instruct and also in view of a TA's future career.

Activities planned for the week included: 1) outside readings and large group lectures on basic theories underlying the teaching of a second language; 2) demonstrations by faculty, including videotapes of activities and techniques for teaching a second language; 3) small groups of peer teaching sessions, focusing on teaching different types of lessons; and 4) critiques of these lessons by fellow TA's and faculty members who usually supervise and train TA's.

LATEST REPORT: Week-long training programs were carried out in 1982, in 1983, and again in 1984 with TA's from the following departments: French and Italian, German, Spanish and Portuguese, Slavic, Japanese, and Hebrew. As planned, group sessions on basic second language instruction consisted of live demonstrations by faculty and videotapes of various activities and techniques. Smaller group activities included peer teaching followed by written critiques and group discussion by TA's and faculty. Experienced TA's took part in the 1983 and 1984 programs by presenting sample lessons in the large group meetings and by helping in the critique sessions that followed peer teaching in small groups.

Evaluation of the project was conducted through administering an objective rating of the activities, by administering an assessment instrument to measure the increase in knowledge of the TA's, and by faculty summaries and suggestions for change. Results suggested that TA's benefitted from the workshop experience; overall, scores improved from 42% on the pre-evaluation to 68% on the post-evaluation. Most TA's rated the workshop as either "very useful" or "useful." Recommendations from the 1982 and 1983 sessions were helpful in planning the later program.

Videotapes of these activities are available for future workshops.

Constance K. Knop
French and Italian
UW-Madison

UPDATE 8/86 AMOUNT $13,273

DESCRIPTORS
*Foreign Languages; *Teaching Assistant Training
Teaching Assistant Training

823006 A

TITLE: THE BEGINNING LANGUAGE SEQUENCE IN GERMAN: RESTRUCTURED

The Project Directors planned to restructure the elementary and intermediate language sequence in German. The revised curriculum was to combine the first two semesters (German 103 and 104) into a unified course with the basic German grammar in its entirety taught by a master teacher(s) and drilled by TA's acting as assistant teachers in coordinated laboratory drill sections. In addition, the third and fourth semester language courses were to be restructured on a modular plan based on a nontraditional scheduling format.

LATEST REPORT: Due to flexible scheduling, students may take their practice sessions in a three, four, or five day sequence. Detailed attendance records are kept and students encouraged to attend more than the required number of practice sessions. Students will be able to complete the first semester course by the twelfth week after passing a comprehensive test. Students who do not pass but have a good attendance record will receive individualized instruction until the end of the semester when they will be tested again. The modular arrangement of the second year course allows students to move in directions that match their interests and special needs. Courses oriented to specific skills allow faculty to give students better advice on which courses to take to address the deficiencies. Full implementation will involve almost 350 students each semester.

Rather than pretesting students, the Directors plan to measure their students against the national norm currently established by the American Council of Teachers of Foreign Language in an effort to establish a longitudinal database for assessment. These findings will be available for distribution and will include statements of principles and procedures for replication of the new sequence. Using this concept of restructuring, one of the Project Directors participated in a workshop sponsored by the Goethe Institute and was part of a team from UW-Milwaukee sent to an intensive workshop offered by the Eastern Illinois University in Spring 1984.

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| Robert A. Jones<br>German<br>UW-Milwaukee | Johanna C. Moore<br>German<br>UW-Milwaukee |
| UPDATE 5/84 | AMOUNT $10,000 |

DESCRIPTORS
*GERMAN
COURSE DEVELOPMENT; LABORATORY FOREIGN LANGUAGE; MODULAR INSTRUCTION

823007 A

TITLE: PROJECT TO CONSTRUCT AND COMPILE A SET OF PROBLEMS FOR USE IN INTRODUCTORY AND INTERMEDIATE LINGUISTICS COURSES

The need addressed by this project was for specialized teaching materials which are effective for teaching linguistics to applied linguistics majors. The teaching materials, traditionally called language problems, are important teaching tools because they are the most common and effective methods used in linguistics courses to teach fundamental areas such as language structure, linguistic theory, and the nature of linguistic inquiry. The kinds of language problems used in linguistics courses typically are not directed to the needs of the largest groups of applied linguistics majors, students in speech pathology and in teaching English as a second language; hence these students have difficulty applying principles to their disciplines.

The plan for satisfying this need was to develop a set of language problems which could be used as modules in linguistics courses or in related courses within the two disciplines, speech pathology, or teaching English as a second language.

LATEST REPORT: A set of language problems was developed that are to be used as modules in linguistics courses or in related courses. The problems, which are phonetic and syntactic in nature, could be used by students interested in speech pathology or teaching English as a second language.

The problems were field tested, evaluated, and modified where appropriate. They will be reinserted into the standard curriculum for introductory and intermediate linguistics courses. Because multiple sections of the courses are offered, approximately 100 students will be using the problems each term. The problems may be included as part of a text which is currently in preparation.

Fred R. Eckman
Linguistics
UW-Milwaukee

Phil J. Connell
Speech Pathology and Audiology
UW-Milwaukee

UPDATE 8/85

AMOUNT $9,987

DESCRIPTORS
*Linguistics; *Communicative Disorders; *Interdisciplinary Modular Instruction

823008 A

TITLE: LIBRARY INSTRUCTION FOR USE OF LEGAL MATERIALS BY UNDERGRADUATES

This project focused on the undergraduate student use of the UW-Oshkosh library's law collection. Because of the complexity of the subject matter and of the organization of legal materials themselves, legal research, and the use of the law collection are difficult for undergraduates. For the same reasons, instruction in legal research is difficult and time consuming for the general reference librarian. The UW-Oshkosh offers sixteen undergraduate courses dealing primarily with the law. The library needs to be able to provide efficient and effective instruction to support these courses.

To deal with this problem, a program of instruction in legal research was developed. These materials might be used for either self-paced or group instruction.

LATEST REPORT: Nine short videotapes have been scripted and produced. Selected tapes have been presented to over 200 political science and education students in classroom settings. A one-hour presentation on the use of these materials has been made to library faculty and staff. Users reactions have been excellent.

The tapes are on reserve for self-paced use and assistance to students in using any or all of the basic legal research materials. The following topics are included: "Introduction to Legal Materials," "Citations," "Legal Encyclopedias," "Digests," "Citators," "Federal Statutes," "State Statutes," "Case Reports," and "Administrative Law." A guide and flow chart to the basic legal materials has been compiled.

A unique feature of the tapes is the use of a talking book puppet in place of the usual human instructor. Presentations of the prepared materials are scheduled for classes as requested by teaching faculty. Copies of the tapes are available for loan to other colleges and universities.

Douglas G. Campbell
Libraries and Learning Resources
UW-Oshkosh

UPDATE 8/85 AMOUNT $4,857

DESCRIPTORS
*Library Resources; *Interdisciplinary
Library Skills; Audio Visual TV Taped; Individual Pacing

823009 A

TITLE: PRODUCTION OF A LANGUAGE LAB TAPE PROGRAM FOR FIRST SEMESTER FRENCH

Beginning students of a foreign language are obliged to attend the language laboratory for pattern practice about one period per week throughout the semester, or 20% of the total contact hours with the language. This considerable block of time has not been utilized to its fullest because the conventional laboratory program has been one of less than satisfactory effectiveness. First, the tape program was composed of exercises containing sentences that were unrelated to each other and had no clear context. Secondly, the material was so keyed to a specific text that it had to be discarded when the text was changed, usually every three years. This project sought to correct these defects.

LATEST REPORT: The completed project consists of forty tapes along with a laboratory book. The materials were used for two semesters. The effectiveness has been measured by comparing test scores of two groups: one which studied with the textbook publishers' laboratory materials and another which used the project materials. Findings indicate that the project materials did contribute to the improvement of teaching and learning, especially in the areas of listening comprehension and grammatical accuracy.

The program has been emended somewhat following its use during Summer 1984. First semester French was offered then, in conjunction with a grammatical text, so that the manual and the tapes formed the most important parts of the course materials. It was then that more attention could be focused on the manual with a view towards amplifying it to the level of a standard text and tape program suitable for publication. During the academic year 1984-85, the program was not used. First semester French, however, is scheduled for Summer 1985, and the project materials will be used and improved. Publication will be sought.

The tapes and the manual for "Vous Aussi" can be obtained by contacting the Project Directors.

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|---|---|
| Claudie Magnier Cordero<br>Foreign Languages<br>UW-Oshkosh | Severin A. Swanson<br>Foreign Languages<br>UW-Oshkosh |
| UPDATE 8/85 | AMOUNT $8,368 |

DESCRIPTORS
*French
Laboratory Foreign Language; Audio Tape Recording

823010 A

TITLE: DEVELOPMENT AND DELIVERY OF A "GENERIC" INTRODUCTORY MANAGEMENT COURSE: AN INTEGRATIVE APPROACH TO TEACHING MANAGEMENT TO BUSINESS AND PUBLIC ADMINISTRATION UNDERGRADUATES

Many business and public administration students have false impressions of each other, impressions that they take with them into their professional careers. All managers perform the same functions, however; they plan, organize, lead, and control. This project was to develop and implement a "generic" management course applicable as a first course for both business and public administration undergraduates. The course would present the common management functions and place students in decision-forcing situations using business and public examples. It would also emphasize how organizational environment and the culture of each sector will require the modification of these traditional management functions so as to ensure effective organizational performance.

LATEST REPORT: The course was designed and used in Spring 1983. Pretests and posttests indicate that there was significantly more learning of subject matter principles in the generic course than in the separate courses. Initially, 55 students enrolled in the course but the numbers will increase as the materials from this course are incorporated into more traditional management courses in both business administration and public administration.

An article, "Teaching the 'Introduction to Public Administration' Course from a Generic Perspective: Putting Business and Public Administration Undergraduates in the Same Classroom," will appear in Administration and Policy Journal before the end of the year. The article, "The Effects of a Generic Approach to the Joint Teaching of Introductory Management to Business and Public Administration Majors," was also submitted as a paper to a business management conference.

The Project Directors have also developed a plan to create a "laboratory" for management education with a team of students and faculty to solve a management problem for a real world client.

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|---|---|
| William J. Murin<br>Public Administration<br>UW-Parkside | James J. Polczynski<br>Business Management<br>UW-Parkside |
| UPDATE 8/85 | AMOUNT $8,418 |

DESCRIPTORS
*Business; *Public Administration; *Interdisciplinary Course Development; Case Studies

823011 A

TITLE: DEVELOPMENT OF AN EXPERIMENTORIUM AT UW-RIVER FALLS

This project had as its objective the development of a mini-exploratorium at UW-River Falls. Patterned on San Francisco's Exploratorium, this new science learning center was to feature participatory exhibits and experiments in physics. It would be used in introductory physics courses for science majors (biology, chemistry, pre-engineering, and physics), in basic physics courses for non-science majors, and by such campus visitors as friends and parents of students, alumni, high school students, and conference participants.

LATEST REPORT: There have been twelve packaged and portable interactive exhibits developed to date. Examples include: "Everyone is You and Me/Superimposition of Light Waves;" " Bells/Resonance and Standing Waves;" and "Colored Shadows/Addition of Colors." Thirteen "unpackaged" exhibits consistent with the interactive philosophy of the Exploratorium are also available. Descriptive "to do" and "to notice" instruction sheets accompany the twelve packaged exhibits.

The Experimentorium has been used by basic physics, general physics, and calculus general physics classes. It has also been used in "College for Kids" and "College for Teens" summer programs. Other faculty have used it as a source demonstration experiment in an acoustics course and a graduate course. Boy Scouts and other visitors to the campus have also enjoyed it. While initial evaluation plans could not be carried out, the increasing use as evidenced by requests from colleagues and students suggest that the Experimentorium will continue as an effective way for a variety of people to direct their own science learning.

A paper, "Distance Dependence of Fields as a Function of Source Geometry Using Light Source," was scheduled for March/April, 1984 publication in the American Journal of Physics.

The Experimentorium continues to add exhibits. Usage is increasing with summer inservice courses and a new 3-credit course, "Exploratory Physics," will be offered in Fall 1985 on the UW-River Falls campus. An NSF grant is being developed for extended use of the Experimentorium.

Wayne W. Sukow
Physics
UW-River Falls

UPDATE 8/85 AMOUNT $ 7,000

DESCRIPTORS
*Physics; *Natural Sciences
Laboratory Sciences; Demonstration

823012 A

TITLE: INTERDEPARTMENTAL ANALYSIS AND REVISION OF PHYSICS 202 LABORATORIES

This project was to team two faculty members from the Department of Physics and Astronomy and one from the College of Natural Resources for the development of special laboratory exercises in natural resources to be designed specifically for the Physics 202 course. The project was to: A) identify suitable laboratory exercises; B) formulate laboratory procedures specifically for those exercises; C) construct prototype laboratory equipment needed for the exercises; D) critique the exercises performed in a laboratory by a student assistant and revise them as warranted; and E) use the exercises during the coming academic year.

LATEST REPORT: The laboratory exercises ultimately chosen can be listed in three categories: 1) five new exercises designed specifically for Physics 202 2) three existing experiments revised extensively, and 3) three existing exercises receiving minor changes and modifications. For two of the exercises, prototype laboratory equipment was constructed and tested. Some new equipment had to be purchased.

For each laboratory exercise performed, students were required to submit individual exercise evaluations. Preliminary results indicate that the required laboratory work was most useful in illustrating and reinforcing basic physics concepts and the Physics 202 has been improved with the revised laboratory program.

Since the laboratories combined two disciplines, water resources and soil science, students were able not only to deal with problems specific to their areas but with experiments that were found to be complementary to their own disciplines. A presentation of the findings was given at the Wisconsin/American Association of Physics Teachers.

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|---|---|
| Robert B. Beeken<br>Physics and Astronomy<br>UW-Stevens Point | Francis L. Schmitz<br>Physics and Astronomy<br>UW-Stevens Point |
| UPDATE 5/84 | AMOUNT $7,555 |

DESCRIPTORS
*Physics; *Natural Resources
Laboratory Sciences

823013 A

TITLE: PROVIDING MEDIA RESOURCES FOR THE BASIC THEATRE COURSES

A large percentage of the students who enroll in the basic theatre appreciation course have had very little exposure to live theatre. Although they are able to attend the theatrical events on campus, in any given semester there will be a number of styles and types of drama which the students will have no opportunity to see. In addition, the numbers of students and sections of the course prohibit their observing many aspects of production which contribute to the theatre experience, such as the rehearsal process and the work of designers and technicians.

This project was to meet those needs by developing a set of original videotapes to provide the students with a much greater range of theatre experiences than had been possible. The programs would examine specific periods and styles of drama and the work of designers, actors, and the director. These resources would supplement live performances.

LATEST REPORT: Tapes focusing on one musical and one dramatic production are being used in the "Introduction to the Theatre" and the "Theatre Appreciation" classes, enrolling 1200 students every year. The strength of these tapes demonstrates the ability of television to reveal the underlying process of an event. Using the tapes, the student can vicariously experience the intellectual, emotional, and creative energies that make production of a dramatic event possible.

The tapes will also be shown over the UW-Whitewater cable television service so that all students living in the residence halls and 1700 homes in the community will have the opportunity to view these productions. They will also be made available for instructional use throughout the UW System at the cost of videotape, duplication, and postage. The completed project, "The Making of a Musical", includes four tapes with the subtitles: "The Audition and Casting Process," "The Design and Technical Process," "The Acting Process," and "The Rehearsal Process." A report and visual presentation of the project were given at the Regional American Theatre Association meeting in Madison in April, 1984.

Gordon O. Hedahl
Theatre Dance
UW-Whitewater

UPDATE 5/84 AMOUNT $10,500

DESCRIPTORS
*Theatre
Audio Visual TV Taped

823014 A

TITLE: COMPUTERS ACROSS THE CURRICULUM

The purpose of this project was to train the entire fourteen member faculty of UWC-Marinette in the use and production of computer assisted instruction (CAI) materials. The project sprang from research evidence demonstrating the effectiveness of CAI in the presentation of concepts and skills in many disciplines, as well as the faculty's desire to give their students increased exposure to computers.

LATEST REPORT: The faculty of UWC-Marinette was trained in Basic computer language by national CAI consultants. The faculty also developed skills in writing specific programs of instruction for their particular disciplines. The programs developed by the participants are available through the individual instructors; some examples include: Huck Finn (English), Naming Organic Compounds (Chemistry), Coping with Stress (Sociology), and Hardy/Weinberg Law (Zoology). Also an annotated bibliography listing relevant programs and articles by discipline is available through the Project Director.

Evaluation was conducted in several phases. The programs designed by the instructors were evaluated by pre- and posttesting students' knowledge. Most programs evaluated proved effective. Also, a questionnaire was used to determine students' attitudes toward the use of the individual programs. Evaluation results suggest clearly that the quality of instruction was improved. Finally, to assess changes in student awareness of computers, the Director used an attitude questionnaire. In addition to pre- and posttesting students, faculty also conducted a concluding survey with students at another Center. At this point, 60% of the Marinette students used CAI materials as part of their courses.

William Wresch
Computer Science
UW-Stevens Point

UPDATE 8/85 AMOUNT $16,000

DESCRIPTORS
*Faculty Development; *Computer Science
Faculty Development; Computer Multiple Applications

823015 B

TITLE: WRITING ACROSS THE CURRICULUM IN THE WEST CENTRAL WISCONSIN CONSORTIUM (WCWC)

All four WCWC universities, UW-Eau Claire, UW-La Crosse, UW-River Falls, and UW-Stout, have sponsored successful introductory writing across the curriculum programs recently. The two objectives of these programs have been to encourage faculty in all disciplines to: 1) share the responsibility for teaching students to write, and 2) use writing as a learning tool in their courses. To gain the maximum benefit from introductory programs, the four WCWC universities adapted a model developed in a pilot study at UW-Eau Claire in 1982-83.

In the pilot, faculty applied in teams of two ("veterans" of previous writing programs recruited "non-veteran" partners). Participants met in a forum periodically during the school year to discuss writing, to design specific methods for improving student writing, to present reports, and to write articles for a manual.

LATEST REPORT: Sixty-three faculty teaching 100 to 300 students each semester or quarter participated in the project. Eight meetings took place at each of the four universities. The across-campus exchanges included sharing of ideas, presentations, and evaluations of different teaching techniques and resulted in the writing of a publication "Strategies for Writing Across the Curriculum."

Since the project is inherently cross-disciplinary, the next challenge is how to adapt this faculty development model to center on concerns other than writing. The UTIG Category C grant on teaching critical thinking in all subjects (856021C) supports a project modeled on this faculty development model.

A manual of some 30 reports by UWEC faculty participating in a 1984 WAC seminar on the Eau Claire campus is available. "Reaching Across the Curriculum with the Documented Research Paper" appeared in The Writing Instructor (Summer 1984). Panels at national conferences at which the project was presented included Collaboration Between High School and College Writing Teachers in Writing Across the Curriculum, Conference on College Composition and Communication, Minneapolis, March, 1985; and Sequencing Writing Assignments to Promote Intellectual Growth, Conference on College Composition and Communication, New York, March, 1985.

Wilma Clark
English
UW-Eau Claire

UPDATE 8/85 AMOUNT $18,000

DESCRIPTORS
*Basic Skills English Composition; *Faculty Development
Faculty Development

823016 B

TITLE: INTERCULTURAL EDUCATION: EUROPEAN IMMIGRANTS/RACIAL MINORITIES

There is a need for instructional materials that deal with the difficult topics of prejudice, discrimination, and racism, particularly materials that are meaningful to teacher education students, without forsaking scholarship. This interdisciplinary project produced a high-quality videotape titled "Immigrants, Minorities, and School: A Clash of Cultures" (34 minutes), based on a theme developed earlier by the Project Directors through an instructional project sponsored by the National Endowment for the Humanities. This theme explores the significant similarities and contrasts between the experiences of past European immigrants in Wisconsin with the current experiences of racial minorities in the state.

LATEST REPORT: The tape can be best utilized in the context of a course or program in cultural foundations of education, human relations, ethnic studies, ethnic history, sociology, or similar subject areas. The Project Directors offered the videotape to deans of education throughout the UW System and distributed it also through the UW Ethnic Studies Coordinating Committee. Broadcast took place through cable television at UW-Milwaukee. In 1984, the tape was presented and discussed at the annual conference of the Society for Intercultural Education, Training and Research in Washington, DC.

In addition to this primary production, the Project Directors developed a supplementary videotape consisting of four interviews on the topic. This is being utilized at UW-Parkside and UW-Milwaukee. They still hope to develop a writing project on the European immigrants/racial minorities theme in the future.

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| John D. Buenker<br>History<br>UW-Parkside | Ronald L. Podeschi<br>Cultural Foundations of Education<br>UW-Milwaukee |
| UPDATE 8/85 | AMOUNT $10,000 |

DESCRIPTORS
*Teacher Education; *Interdisciplinary; *History
Audio Visual TV Taped

823017 B

## TITLE: FARM BUSINESS SIMULATION MODEL

A farm business simulation model based on a typical Wisconsin farm was to be developed. It was to incorporate the complexities and interrelationships faced by present day farm managers. A descriptive narrative was to be developed to provide student participants with the necessary setting and environment to make realistic decisions. A computer program was to be developed that would process the student decisions and generate the necessary physical and financial reports reflecting the consequences of decisions made. The management model was to encompass six major topics currently being taught in the farm management class: 1) economic principles, 2) farm budgets, 3) farm planning, 4) farm records, 5) income tax management, and 6) risk and uncertainty.

LATEST REPORT: The program has been completed and will be used in Fall 1983. The project evaluation will be based on student ratings in the course. Course evaluations from semesters before the farm simulation model is used will be compared to course evaluations after students have participated in the simulation exercise.

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| John Ambrosius<br>Agricultural Industries<br>UW-Platteville | Rick Klemme<br>Agricultural Economics<br>UW-Madison |
| UPDATE 8/83 | AMOUNT $4,900 |

DESCRIPTORS

*Agricultural Sciences; *Agricultural Economics
Models

823018 C

TITLE: ESTABLISHING CAMPUSWIDE INSTRUCTIONAL DEVELOPMENT TEAMS THROUGH STUDY OF STUDENT LEARNING STYLE

This project was designed to bring about campuswide involvement in improving undergraduate teaching through the establishment of action teams of faculty and administrators to study models of student learning styles and apply these models in the classroom by developing and utilizing alternative teaching approaches.

LATEST REPORT: As a result of this project, more than fifty faculty members administered learning style instruments to over 1000 students in more than 50 classes. Some faculty members were able to experiment with alternative teaching methods and delivery systems. These faculty and other project participants developed and pretested a variety of new teaching methods and delivery systems such as computer assisted instruction, simulation, and individualized instruction packages.

Some faculty members who were involved in the project are planning publication of the results of their individual or team study, and the Project Director intends to publish an analysis of the data that were gathered on the learning styles of students at UW-Stout. Some participants have submitted papers for national presentations. Team or individual reports are available on request.

The model which was utilized by this project, to establish campuswide involvement of faculty in instructional improvement activities through the study of student learning style, has been successful at UW-Stout and could be adapted to other campus settings. Since the project was completed, several faculty forums have been held to continue discussion of issues raised by the study.

Virginia Peter
Educational Strategy and Development Office
UW-Stout

UPDATE 5/84 AMOUNT $19,272

DESCRIPTORS
*Faculty Development
Faculty Development; Cognitive Style

823019 C

TITLE: INTERSECTIONS

"Intersections" conjoined curricular reform and faculty development at UW-Superior. Its premise was integration of learning; its principal mode was interdisciplinary.

As curricular reform, "Intersections" set forth an outline of courses intended to take the place of current liberal education requirements at the university. Two kinds of courses were discernible in the new plan: those in which the acquisition of knowledge was primary and those, critical inquiry, which sought to create a certain intellectual predisposition, which in a word, treated the processes by which the various disciplines proceed in their work. These new liberal education courses were to be spread over at least three years of each student's university career, emphasizing the centrality to university education of liberal learning.

"Intersections" was to coordinate its second concern, faculty development, with curricular reform by outlining three modes of faculty development whereby the various courses which would be part of "Intersections" could both be engendered and developed. These three modes were faculty forums, learning with a colleague, and an individually designed professional growth plan.

LATEST REPORT: The new course designed for the project, "History of Ideas," was taught on an experimental basis to 66 students each quarter. Two faculty members were present in the classroom at a time for presentations and discussions. A second group of courses dealing with critical inquiry is in the process of being written. An evaluation of campus attitudes shows that "Intersections" has become an issue in the concern for a change in the liberal education requirements.

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|---|---|
| Thomas C. Hartman<br>History<br>UW-Superior | Leo J. Hertzel<br>English<br>UW-Superior |
| UPDATE 8/83 | AMOUNT $17,200 |

DESCRIPTORS

*Interdisciplinary; *Faculty Development; *General Education
Faculty Development; Course Development

823020 A

TITLE: A COMPREHENSIVE INSTRUCTIONAL PROGRAM IN STATISTICS AND RESEARCH METHODS USING COMPUTER ASSISTED MODULES

The purpose of this project was to improve significantly the quality of undergraduate research methodology courses in the social and behavioral sciences. The program was to make use of two approaches designed to improve the quality and quantity of instruction. This was to be accomplished by: A) allowing the students to discover the need for specific research methods before the introduction of those methods; B) reducing anxiety by systematically building new knowledge on old; and C) allowing flexibility in the sequence of topics so that the student might tailor his/her coursework to individual needs. The two approaches involved A) the use of independent course modules from which relevant topics were selected and B) the use of computer assistance to simulate research problems and provide practice in estimation of statistics.

LATEST REPORT: The modifications of the computer programs necessary to implement this project were completed for Fall 1983. The Project Director and his consultants produced a program more effective than the MINITAB statistical package. The new program, Interactive Statistics Lab (ISL), allows a greater range of statistics with more efficient programming. ISL has the unique capability to access data produced easily by A) actual experiments and B) simulations. It will also provide for the creation and editing of students' own data as well as the conversion of data sets to and from other programs.

Another unique feature is the addition of a menu system in ISL, eliminating the need for a student guide computer handbook. There is also a component that enables students to gain practice with the computational formulas for statistics.

ISL will be used in two Behavioral Science Division statistics courses. The evaluation will take place in Spring 1984. A two-year follow-up study will be made of comparable classes and these two sections.

Donald A. Walter
Psychology
UW-Parkside

UPDATE 5/84 AMOUNT $4,935

DESCRIPTORS
*Statistics; *Social Sciences
Computer Autotutorial; Modular Instruction

823021 A

# TITLE: DEVELOPMENT OF AN INTRODUCTORY CHEMISTRY COURSE WITH A MICROCOMPUTER ASSISTED LABORATORY PROGRAM

Within introductory chemistry courses, one of the roadblocks to student understanding and learning is the problem of connecting chemical principles and theories presented in lecture with observations made in the laboratory. Principles and theories are developed for the submicroscopic, observable, tangible world. The connections are not obvious.

The focus of the project was the use of inexpensive microcomputers in the laboratory. The power of the computer to simulate microscale interactions while actual macroscale observations are being made was expected to help students bridge the gap between the microspace and macroworlds. Secondly, the simulation/demonstration capability of the microcomputer would be used to perform "experiments" with systems and with equipment that are normally too sophisticated (and expensive) to be included in the introductory chemistry courses.

LATEST REPORT: A laboratory program was outlined that integrated computer use into the curriculum. A set of laboratory experiments were written for the program and computer software was developed to accompany the written experiments. The laboratory manual and a cassette tape of the microcomputer programs to be used in conjunction with the laboratory manual are available. The program, successfully tested and evaluated by students, was shown to be a useful alternative to a more traditionally taught laboratory program, bringing a fresh approach to the general chemistry laboratory with no loss of "hands on" chemistry. The idea of integrating computer use with laboratory exercises should have broad applicability in chemistry and other courses at other institutions.

Results of this experiment have been presented at an Undergraduate Teaching Improvement Council workshop and at a meeting of UW System chemistry faculty. The manual, "Computer Assisted Chemistry Experiments," is available at no charge. The programs used with the manual are available on cassette tape for the cost of copying and delivery. Contact: William J. Mueller, UW-Stout, Menomonie, WI, 54751, (715) 232-1302. INACTIVE.

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| William J. Mueller<br>Chemistry<br>UW-Stout | Mary Orfield<br>Chemistry<br>UW-Stout |
| UPDATE 8/85 | AMOUNT $4,109 |

DESCRIPTORS
*Chemistry
Laboratory Sciences; Computer Problem Solving; Computer Simulation

823022 B

TITLE: PRODUCTION OF AN AUDIO VISUAL SLIDE PROGRAM ON THE METHODOLOGY OF SAMPLING AND ANALYSIS OF HEAVY METALS FROM AIR AND ANALYSIS BY ATOMIC ABSORPTION

Human exposure to highly toxic heavy metals, particularly through air contamination in the occupational environment, has long been a major concern of industrial and environmental hygienists. Particular attention has been paid to the instruction of undergraduate students of allied health fields in sampling and analysis of these air contaminants. The allied health faculties of UW-Parkside and UW-Eau Claire have recognized this importance.

The objective of this project was to facilitate instruction of students and laboratory technicians in the complicated analytical procedures of sampling and analysis of airborne heavy metals. This was to be accomplished by production of an audio visual slide presentation that would provide a step-by-step description of sampling and analytical procedures. The target population would be undergraduate students of the industrial and environmental hygiene major at UW-Parkside and the environmental health major at UW-Eau Claire.

The impact of the program on student learning was to be evaluated both quantitatively and qualitatively.

LATEST REPORT: Media supplies and other necessary equipment has been purchased for the project and planning of the curriculum is incomplete at this time.

Behzad Samimi
Industrial and Environmental Hygiene
UW-Parkside

UPDATE 8/83 AMOUNT $4,500

DESCRIPTORS
*Health Sciences; *Environmental Studies
Audio Visual Multimedia; Laboratory Sciences

# GRANTS AWARDED

## 1983 - 84

834001 A

TITLE: ART MEDIA AND METHODS: THE NATURE AND PROPERTIES OF MATERIALS

Most art students have weak science backgrounds, particularly in chemistry. This has an unfavorable impact on their performance in certain art courses. The modern textbooks in use frequently assume that students have a basic knowledge of chemistry.

LATEST REPORT: A chemist and an artist prepared seven modules for use in twenty-five art courses. The present status of the joint project is as follows:

1. A set of eight reference materials was placed in the Art Department office for faculty use and a descriptive guide to these was prepared for each faculty member.
2. Student handout materials prepared thus far include "An Introduction to Chemistry for Artists" and "Chemistry for Painters."
3. A paper was presented at the Philadelphia National Meeting of the American Chemical Society in August, 1984. "Art Hazards-Educating the Artist" will be published in the Journal of Chemical Education in 1985.
4. The American Chemical Society has produced a 15-minute audiotape, "Chemistry for the Artist." This is part of their educational series, Dimensions in Science, and can be purchased from the ACS.
5. A slide-audiotape program (13-minute) entitled "Paying the Price for Art" has been produced by the Media Development Center. It has been evaluated by two art classes during the past semester and received a very positive response. It can be purchased within the UW System for $51.40. The cost for other colleges and universities is $123.40.
6. Other activities include the lecture "Health Hazards in the Studio" at a meeting of the Art Student Association, a memo to the art faculty dealing with art studio hazards, and an article in the campus newspaper, The Spectator, dealing with the project.

Future efforts include the preparation of handout materials, including an "Artist's Safety Manual." A poster series has been initiated with a safety emphasis. The first poster produced has a focus on the proper use of aerosol paint cans. The Project Directors hope to offer a workshop for teachers during Summer 1986.

Allen A. Denio
Chemistry
UW-Eau Claire

Stephen R. Katrosits
Art
UW-Eau Claire

UPDATE 8/85

AMOUNT $8,311

DESCRIPTORS
*Art; *Chemistry; *Interdisciplinary
Audio Visual Multimedia; Modular Instruction

834002 A

TITLE: DESIGN EDUCATION: DEVELOPMENT OF FACILITIES, MATERIALS, AND METHODS TO ENHANCE ANALYSES OF SPATIAL INTERRELATIONSHIPS AND DESIGN ELEMENTS

Analyzing spatial interrelationships of unbuilt environments or the visual impacts of proposed development projects is a difficult and often subjective process. Current attempts to analyze such impacts may incorporate three-dimensional scale models. Scale models, because of their small size, are inherently limited as a way to judge spatial interrelationships. This project was aimed at overcoming the weakness described above by combining photographic techniques with close-range photogrammetric techniques.

LATEST REPORT: The Project Directors developed photographic laboratory facilities, including a 35mm camera system, modelscope, tubular camera positioning matrix, flexible positioning boom, lighting system, and miscellaneous supplies. These facilities allow for accurate camera positioning, and production of close-range three-dimensional photographic slides. Further, three-dimensional slides of models, or portions of models, allow for projection of same, in three-dimensions and at near-human scale.

Construction of the laboratory facilities proceeded efficiently and without delay. Testing of the positioning boom and photographic system, however, identified a significant problem: insufficient photographic quality at extremely close-up perspectives. Although much valuable time was lost, the photo quality problem was solved with the addition of an endoscopic focusing screen and 135mm lens. Successful application was then made using a scale model of the UWGB library. Presentations of early results have been made to interested UWGB and Green Bay groups.

This projection capability can make a significant contribution in courses where spatial interrelationships and/or visual impact are important considerations. At UW-Green Bay, such courses include "Environmental Impact Analysis," "Techniques and Methods in Planning," "Environmental Design Studio (I-IV)," "Ecology," and "Technical Theatre." The laboratory and techniques have high potential in various fields. Because of this, much experimenting and technique development remains.

William R. Niedzwiedz
Regional Analysis
UW-Green Bay

UPDATE 8/85 AMOUNT $2,692

DESCRIPTORS
*Design; *Interdisciplinary
Laboratory Social Sciences; Models; Visual Slides

834003 A

TITLE: MODERNIZATION OF AN INSTRUCTIONAL PROGRAM IN CARTOGRAPHY THROUGH COMPUTER ASSISTED MAPPING

Computer assisted mapping is rapidly becoming the revolutionary new tool for cartography in the 1980's, and the use of computers has speeded the trend toward the identification of cartography as a science. Students need to be prepared to do computer assisted mapping.

LATEST REPORT: Project development involved revision of an existing cartography course to fit a computer-assisted mapping format, experimentation with mapping software to familiarize the Project Director with its limitations and capabilities, and the initiation of student-generated independent study projects to test the applicability of curriculum materials to the existing course. Although there are no plans to expand the curriculum at this time, the potential for application of this project to other courses in geography is enormous.

This project has resulted in a number of independent study papers written by students and the development of curriculum materials, including instructional materials in the use of computers for mapping and laboratory materials outlining specific mapping projects which may be undertaken by students.

The project is viewed as successful on the basis of the number of independent study projects it has generated, the opportunity afforded students in gaining "hands-on" experience with advanced computer assisted mapping techniques which in the past were only vague concepts gained from lecture and reading, and the awareness of geography majors of the advantages of computer-assisted mapping.

Dean G. Wilder
Geography
Uw-La Crosse

UPDATE 8/85 AMOUNT $4,114

DESCRIPTORS
*Geography
Computer Graphics

834004 A

TITLE: INTERDISCIPLINARY WRITING AT LA CROSSE

Students need to know how to write and how to think, and those skills come only through sufficient practice. The purpose of this project is to provide more opportunities throughout the university for students to write, to think, and to learn. However, simply providing opportunities is not enough: unless those opportunities are carefully structured, they may result in failure and lack of interest rather than success and enthusiasm for writing, failures which can be devastating for both students and faculty.

The Project Directors planned to encourage and teach their colleagues in all disciplines to provide in their classes strategically structured opportunities by which students could practice and develop writing and thinking skill.

LATEST REPORT: The project--to increase the number of UW-La Crosse faculty and academic staff who actively and skillfully foster student writing--was carried out as proposed with four major components: 1) faculty writing-across-the curriculum seminars, 2) departmental workshops 3) individual faculty conferences, and 4) a university-wide conference conducted by a consultant/expert. As the project developed, it assumed additional components and a new goal: to lay the foundation for new institutional writing standards. Directly involved in the project were 74 faculty and academic staff who carried the concepts and goals of the project to an estimated 1850 students.

Lonny Winrich
Computer Science
UW-La Crosse

Sonja Schrag
English
UW-La Crosse

Terry Beck
English
UW-La Crosse

UPDATE 8/85

AMOUNT $9,071

DESCRIPTORS
*Basic Skills English Composition; *Faculty Development
Faculty Development

834005 A

TITLE: INTERDEPARTMENT PROGRAM FOR TEACHING ASSISTANT TRAINING IN THE BIOLOGICAL SCIENCES

While much of undergraduate teaching on the Madison campus, particularly at the introductory level, is done by teaching assistants, there is too little opportunity for the latter to learn basic skills other than by direct experience and too often at the expense of students. A series of informal but well attended discussion workshops for TAs in the biological sciences not only confirmed the general opinion that more should be done to help TAs learn to teach and showed that TAs would participate enthusiastically in appropriate programs but also provided concrete suggestions on the form that this help should take. This project was the direct outcome of these discussions. It consisted of a series of workshops at the beginning and part way through each semester for the discussion of general problems and their solutions, an ongoing weekly seminar on educational theory and practice for which graduate credit was to be offered, and the preparation of resource manuals for TAs for two specific high enrollment introductory courses, Botany/Zoology 151/152 (about 225 students annually) and Zoology 101 and 102 (about 2,200 students each year).

The program was organized jointly by the Departments of Botany and Zoology and continued beyond the initial year as a collaborative effort by both departments. This program added to the preparation of graduate TAs for subsequent independent teaching position.

LATEST REPORT: The Botany Department sponsors a two-day orientation workshop for new teaching assistants during registration week. New and experienced TAs, faculty, and staff from several biologically-oriented departments participate. Topics originally covered in other workshops have been incorporated into weekly TA meetings for individual courses. The graduate seminar on teaching college biology (Botany/Zoology 969) is offered yearly. The resource manuals have become an important feature of TA preparation in the courses for which they were prepared, and a manual for Botany 130 is currently being written.

Wayne M. Becker
Botany
UW-Madison

Grant Cottam
Botany
UW-Madison

Walter S. Plaut
Zoology
UW-Madison

Eric Knox
Botany
UW-Madison

UPDATE 8/85

AMOUNT $9,478

DESCRIPTORS

*Biological Sciences; *Teaching Assistant Training
Teaching Assistant Training

834006 A

TITLE: COMPUTER AIDED TUTORIAL HELP TO SUPPLEMENT LARGE LECTURES IN ENGINEERING MECHANICS

The surge in engineering enrollments has forced the Department of Engineering Mechanics to resort to large lectures in the beginning engineering course EM 201 "Statics." The major problem has come in the areas of discussing individual questions and providing adequate help with difficult homework assignments. The objective of this project was to take advantage of the excellent graphics capabilities of modern microcomputers to address these problems.

LATEST REPORT: The Project Director developed a set of homework problems to be assigned to a randomly selected section of a large statics class. After students attempt the solution and either need help or simply want to see a good solution, they are referred to readily available computer terminals. On an interactive basis they are able to view a detailed, well displayed, professionally designed solution to the problem in a tutorial demonstration mode. Fifty computer-aided homework problems have been developed through this project.

Each problem is programmed to simulate the way an experienced lecturer would present the solution at the blackboard. The computer makes use of sequential drawings, tutorial comments, equations presented in a logical order, with intermediate results added to the free body diagrams as they are determined and makes generous use of color and "flashing" features to accentuate important items. All problems are programmed on Digital Equipment Corporation's GIGI system because of its unique graphics editor system.

Student evaluations were positive and showed that a number of students who used the computer tutorial did so in lieu of using the tutorial room staff or teaching assistant office hours. Those who preferred the computer did so because it was always available, has unlimited patience, presents a complete step-by-step solution, is non-judgmental, and does not embarrass students who need help.

A paper entitled "Computer Aided Tutorial System for Statics" was presented at the North-Midwest Section Meeting of the American Society of Engineering Education in Minneapolis on October 16, 1984, and is published in the Conference Proceedings.

Alois L. Schlack
Engineering Mechanics
UW-Madison

UPDATE 8/85 AMOUNT $8,827

DESCRIPTORS
*Engineering
Computer Autotutorial; Computer Graphics

834007 A

# TITLE: CASE STUDIES IN OCCUPATIONAL THERAPY: INTERACTIVE VIDEOTAPES

Because of the high degree of clinical application in the profession of occupational therapy in psychiatric settings, there is a growing need for teaching resources that underline the translation of theoretical information into clinical treatment.

Case study videotapes would be a significant instructional tool. The project was to produce two videotaped case studies, each containing three to four parts. Each program was to be designed to present a case study of one client in a psychiatric treatment setting in a thorough and meaningful manner, emphasizing the individuality of the clients, their problems and strengths, and the specificity with which the therapist sets up a treatment program for each client.

The client and therapist were to be taped in the setting where the treatment is actually conducted. This would include psychiatric hospitals and treatment centers. The tapes were to be of value not only in the classroom but also for continuing education workshops for practicing therapists.

Evaluation was to take place during and upon completion of each tape as well as after the whole series. Tools for evaluation would include: questionnaires and discussions with the students involved; and formal and informal evaluation by faculty, clinicians, and tape staff.

Katherine King
Health Science
UW-Milwaukee

Franklin Stein
Health Science
UW-Milwaukee

John Edward White
Television Service
UW-Milwaukee

UPDATE 4/83

AMOUNT $9,000

DESCRIPTORS

- *Occupational Therapy
- Audio Visual TV Taped

834008 A

TITLE: TUTORIAL PROGRAM IN CLASSICAL GREEK MORPHOLOGY

The goal of this project is the improvement of instruction in classical Greek through microcomputer technology. Currently, most students find the subject of classical Greek prohibitively difficult. This is reflected in low initial enrollments and poor retention rates in Greek language courses in contrast with strong enrollments in Greek literature in translation courses. The Project Director has addressed this problem by writing a textbook for his own use. The project was to convert his textbook into a tutorial program for student use, a supplement to conventional textbook and classroom teaching.

The text to be programmed is written in the form of a dialogue between a teacher and a realistically depicted student. Error analysis is a principal concern. Rewritten on a computer disk, examples of general rules can be expanded indefinitely. In addition, students can reuse the computer tutorial program, whereas almost all write answers into programmed texts the first time through and thereby hinder their subsequent efficacy.

LATEST REPORT: The Project Director wrote a series of microcomputer programs to drill elementary and intermediate students in classical Greek morphology (declension of nouns and adjectives and conjugation of verbs). Using a small number of typical words, the programs provide a comprehensive review of Greek inflections. The programs are especially suitable for use with a text written by the Project Director. The text is in the form of a dialogue between a teacher and student and seeks to present the complexities of Greek morphology (rules for phonetic changes with their many apparent exceptions, etc.) in a way that is intelligible and interesting to contemporary students. The text was written by the Project Director in 1975 and revised as part of the project. Both the text and the microcomputer programs are available for the cost of copying and mailing from the Project Director. They have been used successfully by Greek students at UWM. The small number of students involved, however, makes a scientific study of their pedagogical efficacy impossible.

David D. Mulroy
Classics
UW-Milwaukee

UPDATE 8/85 AMOUNT $5,912

DESCRIPTORS
- *Greek
- Computer Autotutorial

834009 A

## TITLE: DEVELOPING AN EFFECTIVE MECHANISM FOR ASSESSING PREVIOUSLY ACQUIRED KNOWLEDGE OF REGISTERED NURSE STUDENTS

The American Nurses Association has taken the position that minimum preparation for beginning professional nursing practice should be a baccalaureate degree nursing education. Registered nurses who have completed associate degree or diploma nursing education programs are increasingly looking to the university for baccalaureate degree completion. Although the program does exist, it is time consuming and cumbersome. The Wisconsin Statewide Study on Nursing and Nursing Education (1979) urged that degree completion programs provide mechanisms for assessment of existing competence with a time frame for reasonable completion.

LATEST REPORT: An examination based on the concepts of illness courses was devised. There was some faculty resistance to the project among those who felt that registered nurses should go through the same course experiences as traditional baccalaureate candidates. When the test was offered on a voluntary basis, no students chose to take it.

While the initial project did not succeed, faculty sensitivity to the unique needs of registered nurses has been raised and a half-time faculty coordinator for registered nurse students has been established. Work on this project is continuing and a special projects training grant from the Department of Health and Social Services is being sought.

Shelagh M. Roell
Nursing
UW-Milwaukee

UPDATE 8/85 AMOUNT $8,362

DESCRIPTORS
*Adult Students; *Nursing
Testing

834010 A

TITLE: VISUAL AIDS FOR ILLUSTRATING MOLECULAR MECHANISMS IN BIOLOGY

Instruction in basic concepts of molecular biology is now an integral component of all levels of the biology and biochemistry curricula. Students are presented with DNA synthesis, gene regulation, chromosome interactions, and gene cloning in introductory as well as advanced classes. Unfortunately, many students have considerable difficulty comprehending and visualizing these complex structures and processes for they are too small and occur too rapidly to be seen. The Project Director will develop, as teaching aids to illustrate these molecular reactions, sets of 35mm slides taken of three-dimensional models. These models will be altered and repositioned to illustrate the sequence of steps in a reaction and a slide will be made at each sequential step. As many as 25 sequential slides might be required for a single complex reaction. With these aids, a process such as the infection of a bacterium by a virus, which involves multiple submicroscopic components interacting simultaneously, will be made into a "real" event and each step can be seen by student, greatly facilitating comprehension.

Slide sequences of the following types of reactions are planned:
A) chromosome behavior in eukaryotic cells; B) bacterial chromosomes and virus DNA; and C) DNA and RNA synthesis and processing.

Peter Wejksnora
Zoology
UW-Milwaukee

UPDATE 4/83 AMOUNT $3,834

DESCRIPTORS
*Biology
Visual Slides

834011 A

# TITLE: TEACHING PERSPECTIVE TO STUDENTS OF ARCHITECTURE AND URBAN PLANNING: A VIDEOCASSETTE PRESENTATION

Perspective has long been recognized as an indispensable tool to environmental designers. It is not easily learned and rarely understood fully. Students consistently fall short in three areas: 1) mechanics: the rules governing correct perspective construction; 2) history: the development of these methods and their significance to design; and 3) cultural context: the relation of the use of perspective to spatial perception.

LATEST REPORT: The Project Directors produced a two-part series (Part I, 28:19, and Part II, 35:34) covering the mechanics, history, and cultural contexts of perspective in paleolithic art, children's art, ancient China, Greece, Rome, the Middle Ages, the Renaissance, and today, using examples of art and architecture from these periods, demonstrations, drama, music, models, and on-location videotaping techniques. A study guide is available for student use either before or after viewing.

"In Perspective" should be useful in the following courses in the School of Architecture and Urban Planning: Architecture 380, Architecture 200 and 201, the incoming three-year graduate refresher course and all 400-level Design Studios. The presentation should also be of use to courses in Art and Art History and may be of interest to any faculty engaged in cultural values in art.

Eric Palson
Architecture and Urban Planning
UW-Milwaukee

John B. Gray
Television Services
UW-Milwaukee

UPDATE 8/85

AMOUNT $10,000

DESCRIPTORS
*Architecture
Audio Visual TV Taped

834012 A

## TITLE: DEVELOPING AND IMPLEMENTING A COMPUTER ASSISTED INSTRUCTIONAL MODULE FOR DIAGNOSTIC PRESCRIPTIVE TEACHING

The evolution of the microcomputer into a powerful but inexpensive teaching tool will change the complexion of instructional technology in the next decade. This project used microcomputers in the laboratory sessions of the course, "Diagnostic Instructional Planning," to improve teaching/learning effectiveness. The primary objective was to develop a computer assisted instruction (CAI) module to teach undergraduate special education majors to analyze, synthesize, and interpret various achievement/diagnostic test scores. The effectiveness of the CAI module was to be empirically determined by comparing it with the conventional lecture mode of instruction. Parameters that contribute to the teaching effectiveness of the CAI program would be identified by such a comparison.

LATEST REPORT: A series of simulations and case studies were included in a CAI program to teach educational assessment skills to undergraduate students who were enrolled in two sections of "Diagnostic Instructional Planning" at UW-Oshkosh. Each of the 24 students had a minimum of one hour computer interaction time with the following programs: "Error Analysis," "Referral Process," "Normal Curve," "Referral Simulation," "Observation Simulation," "Discrepancy Determination," and "Simulation Summary." The participating students indicated in the survey given that the experience was interesting and valuable. The CAI diskette and the user manual developed by the project will be disseminated to other UW System institutions and faculty upon request.

Students using these programs have consistently indicated their favorable response to the vividness of the graphics, the individually determined pace, the instant feedback feature, and the case study approach. Using the CAI program as a supplement to the conventional lecture mode is particularly effective for simulation activities. A presentation of the project was made at the 25th International Association for the Development of Computer Based Instructional Systems Annual Meeting at Columbus, Ohio, on May 15, 1984. Audience response and request for related information are also favorable and encouraging.

Berttram Chiang
Special Education
UW-Oshkosh

UPDATE 8/85 AMOUNT $5,806

DESCRIPTORS
*Special Education
Computer Assessment

834013 A

TITLE: LIBRARY INSTRUCTION FOR THE LITERATURE OF LEGISLATION IN BOTH UNITED STATES AND WISCONSIN DOCUMENTS AND IN OTHER SOURCES

The purpose of the project was to develop materials, both print and non-print instructional aids, which will assist students in tracing a piece of legislation from its point of origin, either in the Congress of the United States or in the Wisconsin Assembly. The Project Director recognized the need for special guides in identifying the "paper trail" left by the legislative process in both governmental and non-governmental sources. The project is intended to benefit students through making available videotapes and other instructional materials to UW System libraries, especially those with federal and state depositories.

LATEST REPORT: The project produced a one hour videotape, The Dance of Legislation, which traces the course of an anti-smoking bill through the Wisconsin legislative process. The response to this project has been gratifying. It has been selected to be disseminated by the Department of Public Instruction, the Library Orientation and Exchange Clearinghouse (LOEX) (a national library information network) and was selected to be shown to the state meeting of the Wisconsin Association of Academic Librarians in April, 1985. Also, places like the New Mexico State Library have asked for the Wisconsin tape--showing the need for this type of material nationwide.

Meredith Gillette
Bibliographic Instruction
UW-Oshkosh

UPDATE 8/85 AMOUNT $2,686

DESCRIPTORS
*Library Resources
Library Skills; Audio Visual Multimedia

834014 A

TITLE: DEVELOPMENT OF OFF CAMPUS LABORATORY EXPERIMENTS FOR ADVANCED PHYSICS STUDENTS

This project responds to the educational needs of advanced students in the physical sciences. The project focuses on off-campus laboratory experiences to enable students from a teaching university to gain direct experience with equipment which is too expensive for regular purchase by these institutions. The need for this experience is indicated by feedback from graduates currently working in industrial, research, and clinical laboratories.

LATEST REPORT: Electron paramagnetic (spin) resonance experiments for advanced physical science students (i.e., physics and chemistry majors) were developed and performed by students at a host laboratory. An outgrowth of this project is the concept of a single instrument teaching center to be made available to students from other UW System campuses during normal breaks in their academic year. Peer evaluation of laboratory exercises for use in the single instrument teaching center were solicited.

In January, 1985, the universities in the WCWC submitted a grant proposal to the NSF College Science Instrumentation Program requesting an ESR spectrometer for use in a consortium single instrument teaching center. Further discussions are under way to address other shared purchases for costly major equipment items.

Wayne W. Sukow
Physics
UW-River Falls

UPDATE 8/85 AMOUNT $5,279

DESCRIPTORS
*Physics
Laboratory Sciences

834015 A

# TITLE: THE DEVELOPMENT OF A VIDEOCASSETTE LIBRARY OF GERMAN SPEAKERS FOR STUDENTS OF GERMAN AT UW-RIVER FALLS

The President's Commission Report on Foreign Language and International Studies (1979) pointed out the need for improved language instruction in the United States. The Department of Modern Languages at UW-River Falls is a small department which cannot easily offer students a wide variety of instructors. This project was intended as a remedy.

LATEST REPORT: During the summer of 1983, 20 videocassettes and an accompanying 107 page booklet entitled Tales of German-Speaking Immigrants and Visitors to America were produced for use beginning in the 1983-84 academic year. The booklet contains vocabulary and questions which pertain to each videocassette.

The Project Director uses the cassettes in his second-, third-year, and, occasionally, more advanced classes. They are best suited for the third-year language classes ("Conversation and Composition") where 8 and 10 cassettes per year are applicable. Fewer cassettes (3 to 4) can be used in the second year because of their difficulty level. Some difficult cassettes have also been used for advanced independent study students. Listening comprehension difficulty is measured according to the speaker's vocabulary, the subject being discussed, the speaking rate, and the dialect. The speaking rate seems to cause the most difficulty.

The principal teaching improvements are the following: 1) students are exposed to many speakers with their attendant lexical and dialectal variants, 2) students' vocabulary is increased, 3) students' listening comprehension is improved through concentrated video segments, 4) students' writing is improved by answering the booklet questions (this also serves as a check on their comprehension), 5) interest level remains high through the visual format, and 6) students are exposed to cultural and historical material from a personal viewpoint.

On evaluation questionnaires students respond favorably to the videocassettes. A high proportion of students find that their vocabulary and listening comprehension is improved. On the average students report that they understand 65% to 85% of what is spoken. However, they manage to answer 90% of the booklet questions.

The booklet is currently being revised and corrected. The revised edition and answer keys should be available at the end of Summer 1985.

Peter C. Johansson
Modern Languages
UW-River Falls

UPDATE 8/85 AMOUNT $6,500

DESCRIPTORS

*German
Audio Visual TV Taped

834016 B

TITLE: AN INTERDEPARTMENTAL PROGRAM FOR ENHANCING THE ACQUISITION OF KNOWLEDGE ABOUT EXCEPTIONAL EDUCATIONAL NEEDS IN TEACHER EDUCATION

The UW-Whitewater has as one of its select mission statements "to provide supportive services and programs for handicapped students." This project was designed to further UW-Whitewater's commitment.

LATEST REPORT: Faculty and academic staff met for a two-and-one-half day retreat at the J. F. Friedrick Center in Madison on August 15-17, 1983, for two 2-hour sessions at UW-Whitewater in October and November, and a one-day session at UW-Whitewater between semesters in January, 1984. At these seminars participants were given an opportunity to gain knowledge about disabilities, interact with disabled students, learn about available resources on the UW-Whitewater campus, and also examine their own attitudes and feelings concerning disabled students. Faculty from the four institutions of the West Central Wisconsin Consortium also were invited to participate in the August retreat.

According to the results of the attitudinal tests given as a pre- and posttest to all participants, there were changes in the following areas: employment of the disabled, education of the disabled, classroom environments with disabled, and understanding individual differences of disabled.

Participants listed the following ways they had helped to make educational opportunities accessible: 1) referred one student to Project Assist (learning disabilities program); 2) communicated with disabled students and let them know that the faculty member is available for any problem that they may face; 3) met with disabled students individually early in the semester and asked them their views regarding course assignments, facility, and any problems they saw, etc. and encouraged them to feel free to seek assistance if needed; 4) referred a student (testing and follow-up resulted); was better able to work with the student and received helpful direction from others; 5) had influence on allowing a student with a disability to do her observation and participation with normal children; 6) allowed a student with a disability to use class lecture notes; 7) was able to work intelligently and understandingly with a deaf couple; 8) assisted with examination problems; 9) helped place student teachers in accessible schools; and 10) allowed use of tape recorder and no time limit on examinations.

The Project Director published a faculty handbook, Breaking the Barriers, Making Educational Opportunities Accessible, and conducted inservices with 34 of 35 departments on campus to distribute the handbook as part of her quarter time position with Student Affairs, an appointment which was the result of this project. She also presented the model program at the National Association of Handicapped Student Service Programs in Post Secondary Education Conference in Kansas City.

Dorothy Tiede
Special Education
UW-Whitewater

UPDATE 8/85 AMOUNT $4,068

DESCRIPTORS
*Handicapped Students; *Faculty Development

834017 A

# TITLE: THE TRIGONOMETRY TUTOR

The need for a computerized trigonometry course exists at the UW Center-Marinette campus and elsewhere. As budget and staff reductions occur across the System, together with increased teaching loads, the staff time saved by having students learn trigonometry via the computer could be used to offer additional needed mathematics courses.

"The Trigonometry Tutor" will be a complete, yet compact, trigonometry course contained on microcomputer diskettes. Students will be able to study trigonometry independently, at their own rates. They will use the mathematics staff of a particular university as "resource persons" instead of in-class lecturers. "The Trigonometry Tutor" will serve students who have had no prior knowledge of trigonometry, will serve those who need a review of a certain aspect, and will serve those who need an entire course "refresher."

The project will be written in Basic and evaluated by students and colleagues.

Lyle Espenscheid
Mathematics
UWC-Marinette

UPDATE 4/83 AMOUNT $3,500

DESCRIPTORS
- *Mathematics
- Computer Autotutorial

834018 B

# TITLE: A WORKSHOP FOR THE INCORPORATION OF HUMAN GENETICS INTO UNDERGRADUATE BIOLOGY CURRICULA

Information in human genetics is being discovered at a rapid, almost explosive rate. It is quickly becoming an essential component of the biology training of both majors and now majors in the field. Information related to human issues adds life to classes and, more importantly, provides an accurate basis to help in personal, social, political, and ethical decision making. It is the purpose of this project to help incorporate information about human, medical, and clinical genetics and related problems and issues into appropriate biology and genetics courses in the UW System.

A trial workshop will be organized through the UW Centers Department of Biological Sciences and will provide feedback and information that will be helpful in formulating a workshop to which all UW System biologists will be invited.

The workshop will provide information, experiences, techniques, and materials and establish liaison among participants and professionals in clinical and human genetics. A training program in human genetics at the Clinical Genetics Unit, UW-Madison, will aid in updating information and provide an opportunity to develop course materials. Continued liaison by means of visits, phone contact, and a newsletter will provide continuity.

Evaluation will include a comprehensive questionnaire on the contents of each workshop, a comparison of the quantity of human genetics information in courses before and after workshop participation, and a tally of information services used after the workshop.

Renata Laxova
Medical Genetics
UW-Madison

Raymond Kessel
Medical Genetics
UW-Madison

Douglas Johnson
Biology
UW-River Falls

Eugene Braun
Biology
UWC-Waukesha

UPDATE 4/83

AMOUNT 14,185

DESCRIPTORS
*Biology; *Faculty Development
Faculty Development

834019 B

TITLE: TEACHING: A PROBLEM SOLVING VENTURE

The intent of this project was the production of three instructional videotapes by faculty in the Special Education Departments at UW-Eau Claire and UW-Stevens Point in cooperation with the UW-Eau Claire Media Development Center. The videotapes focus on the process of collaboration between special educators and classroom teachers in order to facilitate effective instruction.

LATEST REPORT: The videotapes are a part of the curriculum in a number of special education courses as well as required courses for elementary and secondary education majors. The tapes are used in courses focusing on assessment. For example, the tapes enhance Special Education 407/607, "Resource Teaching for the Mildly Handicapped," as well as courses designed to teach regular educators strategies for working with handicapped students (Special Education 400, "Exceptional Child in the Regular Classroom"). Faculty at UW-Stevens Point, UW-Eau Claire, UW-La Crosse, and UW-Oshkosh have expressed a strong interest in using the videotapes as well as assisting in the development of them.

Maureen D. Baumgartner
Special Education
UW-Eau Claire

Janet M. Reinhardtsen
Special Education
UW-Eau Claire

Nancy Kaufman
Education
UW-Stevens Point

UPDATE 8/85

AMOUNT $15,000

DESCRIPTORS
*Learning Disabilities
Audio Visual TV Taped

834020 B

TITLE: ENHANCEMENT OF TEACHER TRAINING IN SCIENCE EDUCATION

A crisis facing Wisconsin and the nation is a shortage of qualified science teachers at pre-college levels. There is a need to attract more students to become science teachers and to train them to become effective teachers.

LATEST REPORT: Sixteen science and science education faculty and one chemistry instructor from Madison Area Technical College attended a week-long workshop conducted by the Project Director and his staff. Its purpose was to learn demonstrations and experiments which could be taught to future school science teachers to draw their students to the study of science. The objectives were to disseminate educational programs aimed at improving student learning of science; to train participants in the use of specific demonstrations and experiments for undergraduate science education courses; to improve participants' familiarity, competence, and skill in teaching science via demonstrations; to provide information on safety aspects of demonstrations; and to encourage participants to do outreach in local school districts.

Participant response was very enthusiastic. Many reported significant projects that they developed through 1983-1984 as a result of the workshop, including direct science programming for area school teachers and students. One offered a session on demonstrations at the 1983 UW Chemistry Faculties Meeting, while another coordinated UW-Superior's Second Annual Science Education Conference at which the Project Director was the featured speaker on the topic "Communicating Science via Demonstrations."

Bassam Z. Shakhashiri
Office of the Assistant Director for Science and Engineering Education
National Science Foundation
Washington, DC 20037

UPDATE 8/85 AMOUNT $19,000

DESCRIPTORS
*Natural Sciences; *Faculty Development
Faculty Development

834021 B

# TITLE: EXTENDED DEGREE FACULTY IN CONCERT: REFINING THE USE OF ALTERNATIVE EDUCATIONAL DELIVERY SYSTEMS

This project was designed to help faculty teaching in the Extended Degree programs to improve their ability to use alternative instructional delivery systems and to use a variety of communications systems to communicate with students. To achieve these goals, a three-phase program was initiated. The first phase assessed the nature of instructional delivery systems being used by participants and the frequency and variety of communications systems used in communicating with Extended Degree students. The second phase brought participants together in a two-and-one-half day workshop in which they were introduced to, discussed, and, in some cases, used a variety of instructional delivery and communications systems. The third phase provided participants with experiences with alternative instructional delivery systems and opportunities to discuss particular problems in delivering instruction.

LATEST REPORT: The workshop for the second phase was conducted at Wildwood Studios near Spring Green, Wisconsin. Participants in the workshop had opportunities to discuss and see examples of teleconferencing, off-campus laboratories for laboratory sciences, computer-assisted instruction, video and audiotape delivery systems, and effective management for distance learning. In addition, they had the opportunity to discuss the future of distance learning for adult students with Lorraine Matusak of the Kellogg Foundation and Hank Spille from the American Council on Education.

The follow-up activities were conducted on each of the campuses of the four Extended Degree programs. The activities included a workshop on the use of the SEEN system, conducted by Mavis Monson from UW-Extension, and a workshop on identifying and developing media for distant learning courses conducted by Terry Gibson, Associate Professor of Continuing, Adult and Vocational Education at UW-Madison.

Each of the four Extended Degree programs is currently using information and experience gained through the teaching improvement program to improve communications with students and to implement new instructional delivery systems.

Carolyn Petroske
Extended Degree Director
UW-Superior

John C. Adams
Extended Degree Director
UW-Platteville

Steven Ridley
Extended Degree Director
UW-River Falls

Bonni L. Yordi
Extended Degree Director
UW-Green Bay

UPDATE 8/85

AMOUNT $4,700

DESCRIPTORS
*Adult Students; *Faculty Development
Faculty Development

834022 C

TITLE: COORDINATING UNDERGRADUATE TEACHING IMPROVEMENT AROUND A THEMATIC FOCUS

The purpose of this project was to transform the UWGB Faculty Development Council (FDC) into an agency for planning, initiating, and coordinating efforts toward teaching improvement in the University's undergraduate programs.

LATEST REPORT: The FDC selected as its thematic focus general education and initiated a number of services. The mutual participant-observer program allowed paired faculty released time to attend one another's classes as "students" and advise one another on teaching issues. Four teaching/learning colloquia on general education each drew 20-30 enthusiastic participants. Ten issues of a new newsletter, Teaching Notes, were published and well-received by the faculty. A January mini-faculty college for about forty was devoted to discussing and formulating recommendations on UWGB's general education program. Eight "teaching noons" based on the Northwestern University trigger tapes attracted small numbers, but were well-received by those who did attend. A variety of other activities were initiated, including a consultation with Bob Menges of Northwestern, collection of materials on teaching, a discussion on grading, a trial of classroom videotaping, and establishment of an on-campus brokering service for consultation on teaching (which attracted no takers the first year).

The FDC has assumed a more proactive role at UWGB as a result of these activities and has planned a new series of activities for 1984-85.

Estella Lauter
Communication and the Arts
UW-Green Bay

Kenneth Fleurant
Faculty Development Council
UW-Green Bay

UPDATE 8/85

AMOUNT $19,540

DESCRIPTORS
- *Faculty Development
- Faculty Development; Centers

# GRANTS AWARDED

## 1984 - 85

845001 A

# TITLE: HYPOTHESIS TESTING IN BIOLOGY: A MODEL UTILIZING PLANT DEVELOPMENT

The formation and testing of hypotheses, although basic to the scientific method, is underemphasized in the science classroom. The purpose of this project was to improve biology instruction by generating an instrument to be used by introductory level students to formulate and test a large number of hypotheses in a short period of time. Students were given a set of initial observations suggesting dramatic changes in plant growth. They then proposed and tested hypotheses that might explain these changes. To do this they needed to obtain experimental information from a large data bank controlled by the instructor.

LATEST REPORT: The Project Directors created a data bank, a process that involved identifying probable data requests, collecting appropriate data from the scientific literature, and cataloging the data to make it readily available to instructors. The final product consisted of over 125 pages of tables and graphs, indexed and cross-referenced on computer. It was expected that students using this instrument would be better prepared for subsequent scientific study and better able to make informed decisions about science and technology as it affects their lives.

A major problem was encountered in this project: the chosen example, phototropism, turned out to be much more complex than the Project Directors originally anticipated. In fact, most research on phototropism since 1981 is in conflict with the longstanding dogma that still appears in all botany textbooks. This situation makes hypothesis testing interesting to professors, but frustrating for students who would like to see a definite answer to the problem at hand, especially after trying out many different hypotheses and narrowing the problem down to a point where a definite answer is expected. Thus, until a new consensus on phototropism is reached, this model is not suitable for the type of hypothesis testing exercise that was initially proposed.

Marshall D. Sundberg
Biology
UW-Eau Claire

Kenneth G. Foote
Biology
UW-Eau Claire

UPDATE 8/86

AMOUNT $2,493

DESCRIPTORS
*Biology
Simulation Game; Laboratory Sciences

845002 A

# TITLE: NURSING CARE OF THE ACUTE TRAUMA PATIENT: AN INTERACTIVE VIDEO PROJECT

Clinical experiences for nursing students are generally dependent on the patient population at local hospitals. Since patient populations vary within the Eau Claire area, as in other Wisconsin locations, very few nursing students have an opportunity to care for acute trauma patients.

The purpose of this project was to improve undergraduate nursing students' decision-making skills in acute trauma situations through design, production, implementation, and evaluation of an interactive computer assisted instruction (CAIVI) module utilizing random access videocassette. This instructional unit was developed for use with the IBM microcomputer and Panasonic VHS videoplayer.

LATEST REPORT: The program was developed for use by students by December, 1984. The program is a simulation of an adult male injured in a motor vehicle accident, brought by ambulance to a hospital emergency room, and transferred to a critical care unit where the nurse must observe and care for him. Evaluation measures were utilized throughout the program development and implementation to establish content validity and determine effectiveness of learning. Feedback from faculty and nurse experts during the program development and pilot testing helped increase the validity of the program. Students taking the program rated it very positively. They found it fun, exciting, an opportunity to practice assessment and decision-making independently without risk to the patient. Students were quite successful in completing the program, scoring a mean 24.5 of 29 core items after two attempts on most items. About half of the students answered 72% of the items correctly on the first attempt, a proxy for the "real" situation.

Compared to a similar group of students who took the course the previous semester, the students learning via the supplemental interactive video scored slightly higher on key final examination questions and significantly higher on a latent image examination specifically designed to assess decision-making skills.

Several presentations about the CAIVI have been given and received favorably by nurses, educators, and media personnel. One of the papers will be published in a future issue of Issues in Higher Education. It is anticipated that the program will continue to be used by undergraduate nursing students. Plans for three additional CAIVI's are in varying stages of development.

Rita Kisting Sparks
Medical Surgical Nursing
UW-Eau Claire

Michaelene Mirr
Medical Surgical Nursing
UW-Eau Claire

Irene Golembiewski
School of Nursing
UW-Eau Claire

UPDATE 8/86

AMOUNT $14,000

DESCRIPTORS
*Nursing
Computer Interactive Videotape

845003 A

## TITLE: PREPARATION OF VIDEO TAPES ILLUSTRATING REFLEXES AND RUDIMENTARY MOTOR BEHAVIOR IN INFANTS

A series of videotapes for use in the courses Physical Education 333, "Perceptual Motor Learning," and Physical Therapy 322, "Human Motor Development" will be developed. The content of these courses includes the study of primitive reflexive, postural reflexive, and rudimentary movement behavior in infants. The observation and evaluation of reflexive and rudimentary movement behaviors are used as crucial indicators of present and future levels of motor functioning.

Textbooks and lectures do not provide the student with the necessary visualization of the behaviors being studied. The use of infants in the classroom is less than satisfactory because it is difficult to elicit the exact behavior. A videotape would provide the student with a clear visualization of specific infant behavior and at the same time eliminate irrelevant and distracting behaviors.

The activities in this project include the videotaping of the appropriate behaviors of infants, editing those tapes, developing a narrative script, designing the graphics, and producing the final tape.

The final production tape will be evaluated by a panel of experts from a variety of fields related to motor development in infants.

Leonard Hill
Physical Education
UW-La Crosse

Joy Greenlee
Physical Education
UW-La Crosse

UPDATE 1/84

AMOUNT $9,200

DESCRIPTORS
*Physical Education
Audio Visual TV Taped

845004 A

TITLE: SUMMER SEMINAR ON WRITING ACROSS THE ACADEMIC DISCIPLINES

During the summer of 1984, the English Department hosted a four-day seminar on writing across the academic disciplines for 40 UW-Madison faculty, primarily from departments other than English. Two follow-up meetings were held during the regular academic year.

The seminar opened the way for more and better writing instruction for more undergraduates in writing and content courses the following year by: 1) offering staff currently teaching writing courses the opportunity to review their teaching methods in the light of current research on the composing process; and 2) offering staff currently teaching in the content areas the opportunity to explore the instructional implications of current research on the interrelatedness of writing and higher order reasoning.

A possible long term outcome of the seminar could be the establishing of a more comprehensive program of writing across the university that builds on structures already in place in many departments and programs.

LATEST REPORT: The seminar enrolled 59 full-time participants from 31 different departments and programs. The participants were almost equally divided between those teaching writing and those teaching content. During the school year of 1984-85, faculty from the following departments and programs reported efforts to improve writing instruction, to include more writing-to-learn in their courses, or to organize seminars in their own departments: agricultural journalism, art, botany, business, French, economics, engineering, English as a second language, English literature, journalism, legal writing, music, naval science, nursing, psychology, Spanish, women's studies, and the Writing Laboratory. Sample syllabi and course proposals written or influenced by seminar participants are available on request. In addition, staff participants have collaborated on a number of ventures since the seminar, including preparing proposals for experimental courses in nursing and journalism, working on improving writing assignments, and drafting a proposal for a start-up issue of a journal of undergraduate writing across the disciplines; this proposal was recently funded by the Brittingham Foundation. Finally, the L & S Curriculum Committee, after a year-long study, has recommended to Dean David Cronon that he fund the seminar for the next three years as part of a comprehensive program to improve undergraduate writing at UW-Madison. The proposal awaits the action of the Dean.

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|---|---|
| Martin Nystrand<br>English<br>UW-Madison | Joyce M. Melville<br>English<br>UW-Madison |
| UPDATE 8/86 | AMOUNT $10,545 |

DESCRIPTORS
*Basic Skills English Composition; *Faculty Development
Faculty Development

845005 A

# TITLE: CURRICULUM DEVELOPMENT IN COMPUTER APPLICATIONS IN UNDERGRADUATE SPEECH AND LANGUAGE DISORDERS COURSES

Computers have become a critical part of all aspects of the field of communicative disorders. They are used for language analysis, phonetic transcriptions, second language learning, and speech physiology, Unfortunately, limited availability of microcomputers has resulted in many undergraduates being deprived of this aspect of training. This deficit is a potential hazard to the fine reputation the UW-Madison's program currently enjoys.

The purpose of this project was to improve undergraduate communicative disorders courses through the development of computer assisted instruction in assessment and intervention. The specific aims of this project were: 1) to develop software for speech and language analysis programs; 2) to develop simulated case studies; 3) to provide for experience in use of computers for speech and language analysis; 4) to initiate development of a microcomputer laboratory in Goodnight Hall; and 5) to improve and update the computer background of clinical staff involved in teaching undergraduate clinical practice.

LATEST REPORT: Grant funds provided the necessary resources to purchase a microcomputer and hardware for signal analysis. The goals of the project were expanded and extended as part of the TROCHOS project. Five faculty are in the process of developing computer instructional packages in conjunction with that project. In addition, one of the clinical instructors, Susan Weismer, received funding to provide instruction to the clinical staff on how to use computers for language analysis. The School of Education Computer Laboratory was used in CD 440 for undergraduates to do language analysis of young children. Ultimately, this project will lead to the creation of innovative computer laboratory programs for undergraduate and graduate instruction in computer-assisted assessment of speech and language disorders.

The software and associated laboratory exercises will be tested and evaluated by undergraduate students and clinical teaching staff once the project is completed. These evaluations will serve for further curriculum development and use of the computer in undergraduate courses in communicative disorders. The efficacy of the final products will be determined by student performance on clinical examinations.

Diane M. Bless
Communicative Disorders
UW-Madison

Robin Chapman
Communicative Disorders
UW-Madison

UPDATE 8/86

AMOUNT $3,848

DESCRIPTORS
*Communicative Disorders
Computer Simulation; Laboratory Social Sciences

845006 A

TITLE: DEVELOPMENT OF A COLOR, 16MM, SOUND FILM ON POST-MORTEM ABNORMALITIES OF ANIMAL TISSUES FOR STUDENTS LEARNING ABOUT INSPECTION, EVALUATION, AND PROCESSING MEAT AS A FOOD

More than 300 meat and animal science students need to be educated annually about the identification of abnormal tissues that appear after animals are slaughtered for meat production. Students must recognize the many conditions that prevail so that they can help establish preventive measures as well as help protect the consuming public against the distribution of unwholesome meat products.

Even when slaughter operations at Oscar Mayer could be observed, it was impossible for large groups to frequent the slaughter floor, nor were all of the abnormalities ever present at any given time. Therefore, it was impossible to prepare the students adequately for this vital portion of the courses. Textbook descriptions and still photography were used with limited success. Many abnormalities can best be shown only by developing a detailed color film that will carefully and categorically identify the tissues as they are viewed in fresh, unaltered conditions.

LATEST REPORT: A videotape showing how a frozen pig exhibit can be developed was completed in 1984 as a contribution to this project. The 20-minute color tape received national recognition and has been used by several other institutions. It was displayed at a national conference on June 24, 1985.

In addition, trips were made to various cattle and hog slaughtering plants in the midwestern United States to document on films as many abnormalities as existed. A narrative was developed and two 30-minute, color, 16mm films that can be used in the classroom as well as in teaching tutorial units were planned for production. One film discusses beef and the other pork. The students' views of how well they were able to comprehend and use the information in class as well as on the job after graduation will be monitored. Frequent surveys will be circulated to former students to assess the worth of the film and to solicit suggestions for improvement.

At this writing, the beef film is complete and the pork film is in the process of completion, along with supplementary bulletins. We anticipate that about 50,000 students nationwide will view these films over the next ten years. The beef film has received enthusiastic receptions from students and professionals thus far. Because the Project Director has decided to produce two films instead of one, he is currently seeking additional monies to complete the assignment. The National Cattlemans' Association and the National Pork Producers' Council have been contacted with hopes that $8,000 will be secured for the stated purpose.

Robert G. Kauffman
Meat and Animal Science
UW-Madison

Ron Russell
Meat and Animal Science
UW-Madison

B. Wolfgang Hoffmann
Agricultural Journalism
UW-Madison

UPDATE 8/86

AMOUNT $8,500

DESCRIPTORS
*Meat and Animal Science
Audio Visual Film

845007 A

# TITLE: DYNAMIC VISUAL AIDS FOR PHYSIOLOGICAL FUNCTIONS

Enrollments in human anatomy and physiology courses have been skyrocketing during the past five years. The format for teaching these higher enrollment courses thus has been changing from using the chalkboard in small classes to using the overhead projector. Most major publishing companies provide elaborate colored anatomical teaching overheads. However, few of the available overheads that show physiological functions are instructive above the "100" level.

During the past ten years, blank overheads and colored pens have been used to illustrate dynamic functions for cardiovascular, respiratory, gastrointestinal, renal, and endocrine physiology. These lack the professionalism and sharp color contrast that are essential for optimal visual reinforcement. Therefore, the purpose of this project was to design a set of physiological transparencies which would dynamically communicate specific physiological concepts.

LATEST REPORT: Many dynamic visual aids have been created during the Semester I and II Anatomy and Physiology II courses and have been tested on the students for ease in explaining the complex physiological concepts. Those which have been most successful are the multiple overlays (overhead transparencies) for the ventricular pressure - volume loop (three layers), the cardiac cycle (four layers), the normal EKG and electrical axis determination, electrical axis deviations (four overlays), and respiratory pressures during inspiration and expiration (two overlays). The initial rough draft, colored-pen models used during the project's first year were brought to the UW-Milwaukee Media Center the following summer and converted into a professional, polished package.

Some proposed overhead topics work better with preparation "in situ" and not pre-prepared; e.g., countercurrent exchange and multiplication systems in the kidney. The use of cut-out colored transparency arrows, stars, stomachs, nephrons, livers, etc. placed on a clear transparency with writing around them was very successful. The more color and parts, the better the response!

The students have responded very favorably to the creative use of the overhead transparencies, both multiple overlays and parts such as arrows, stomachs, etc. They would like the whole course formatted that way. The classes these visual aids were tested on included 350 students in Semester I and 385 students in Semester II. In the future, approximately 700 anatomy and physiology students at the 200 level, 30 M.D. students at the intermediate level, and 20 advanced physiology students will view the package each year. The package is being looked at by several commercial distributors and has been advertised to other physiology faculty in the UW System.

Donna M. Van Wynsburghe
Biological Sciences
UW-Milwaukee

UPDATE 8/86 AMOUNT $3,314

DESCRIPTORS
- *Biological Sciences
- Visual Overhead Slides

845008 A

TITLE: ELECTRONIC TEXTBOOKS FOR INTERMEDIATE GREEK AND LATIN

The problem addressed by this project was that contemporary classics students typically attempt to read classical Greek and/or Latin texts after a single year of training in a classical language and with only a weak grasp of English grammar. Under these circumstances, reading with genuine comprehension would require the constant consultation of dictionaries and grammars. Most intermediate students resort to shortcuts ("loose translations" based on published English translations) that are disastrous in the long run. The goal of the project was thus to find the best way to make relevant lexical and grammatical information more readily accessible to intermediate students.

LATEST REPORT: The initial plan was to put such information on computer disks. During the early stages of the project, however, information being accumulated for storage on disks was given to students in the form of printed handouts. The reaction to these handouts was very favorable and their educational benefits obvious. Meanwhile, practical problems with the use of computers were emerging. The principal one was that students would often be unable to get access to a computer at the times that they would normally devote to Latin or Greek homework. Hence, it was decided to switch to print for the project, which thus became a question of designing a new kind of textbook for intermediate Greek and Latin.

One such textbook is now available as a result of the project. It is entitled Structured Vocabulary Notes for Catullus 1-60. It consists essentially of vocabulary lists for Catullus' poems. The poems are broken down into segments of about 40 lines apiece. The vocabulary for each segment is arranged into grammatical and morphological groups. Hence, studying the vocabulary lists not only allows students to translate the relevant poems without extensive use of a dictionary; it also reinforces their knowledge of Latin grammar and morphology. Extensive notes have also been compiled for the eventual composition of a similar textbook for Sophocles' Oedipus Rex, and vocabulary lists have been prepared for a letter of Pliny the younger and selections from Horace. Structured Vocabulary Notes for Catullus 1-60 is available from the Project Director for the cost of copying and mailing.

Student response to these study aids has been favorable and appears to have helped boost the percentage of students continuing to the intermediate level of Classics studies.

David D. Mulroy
Classics
UW-Milwaukee

UPDATE 8/86 AMOUNT $7,022

DESCRIPTORS
- *Latin; *Greek
- *Textbooks

845009 A

# TITLE: THE DEVELOPMENT OF A LOW COST MICROCOMPUTER SYSTEM FOR MATHEMATICS INSTRUCTION

The purpose of this project was to introduce microcomputer usage in the Department of Mathematical Sciences at UW-Milwaukee. Appropriate computer aided instruction (CAI) packages for the remedial and elementary mathematics courses were to be developed by modifying existing software when available and writing new programs when necessary. The drill and practice materials allow the computer to show solutions, and when necessary, also provide tutorial aid for the students.

LATEST REPORT: The mathematics programs developed were implemented in two sections of Mathematics 099 during 1984-85. The usage was mandatory for those students who performed poorly on quizzes. Since the quiz grades were coded by type of problem, it was possible to have the grades dictate which problems were missed. The computer would then print form assignments for each student requiring more study. Grades on the tests taken later by these students showed significantly greater mastery of the skills they were required to drill on via the CAI. The software also proved to be extremely user-friendly.

Twenty-eight computer programs have been developed to date (a list is available). The Project Directors will continue to modify these programs and to develop more material during 1985-86. A proposal to incorporate all sections of Math 099 into the CAI program is under preparation; usage will also be expanded into the Math 100 course. The package has been made informally available to other institutions.

Gilbert Walter
Mathematical Sciences
UW-Milwaukee

David Schultz
Mathematical Sciences
UW-Milwaukee

Thomas Nykl
Learning Skills
UW-Milwaukee

UPDATE 8/86

AMOUNT $6,500

DESCRIPTORS
*Basic Skills Mathematics
Computer Autotutorial

845010 A

TITLE: MICROCOMPUTER PROGRAM TO SIMULATE DNA CLONING IN THE CLASSROOM

A microcomputer program will be created which duplicates the experience and intellectual demands of gene cloning by recombinant DNA technology. This program will fill the gap between the technical advances in the field of molecular genetics and the practical constraints of the undergraduate teaching laboratory. DNA cloning is very much in the forefront of modern biological research, and while the student cannot actually clone a gene in an undergraduate laboratory, a computer program can simulate the experience.

DNA is composed of four different bases, molecules joined together into incredibly long chains. The sequence of bases in a chain holds the information that makes people what they are genetically. Cloning a gene involves isolating a segment of these bases and determining its linear sequence. To do this the researcher uses restriction enzymes, proteins which cut DNA at a four or six base sequence, and cloning vectors, molecules into which the cloned gene is inserted for isolation and proliferation. These operations will be mimicked in the computer program, which creates a 10,000 character (base) document containing an 800 base gene sequence. The student will cut this DNA with restriction enzymes and form a recombinant molecule with a cloning vector whose sequence is known, allowing the student to map the gene.

The availability of such a program will serve to make "exotic" DNA technology accessible in several different courses where DNA is covered.

Several measures will be employed to determine the success of this project, including the response from students and evaluation by peers.

Peter J. Wejksnora
Zoology
UW-Milwaukee

UPDATE 1/84 AMOUNT $4,089

DESCRIPTORS
    *Zoology
    Computer Simulation

845011 A

TITLE: A PILGRIMAGE TO CANINDE, BRAZIL: AN INSTRUCTIONAL VIDEOCASSETTE PRESENTATION

One of the more important, but least studied and understood, aspects of Latin American religion and culture is the pilgrimage, the periodic trip by large numbers of individuals to the shrine of the Virgin Mary or one of the saints to fulfill a vow or engage in some related ritual act. In contrast with pilgrimages in other parts of the world where primarily Christian pilgrims go to seek other-worldly salvation, Brazilian and other Latin American pilgrims go to obtain help with practical problems related to their daily adaptation to the material life of this world.

While a visiting professor at the Federal University of Ceara in northeast Brazil, one of the Project Directors was able to spend ten days at the "Festa de Sao Francisco" in the city of Caninde, a home of the Shrine of St. Francis of Assisi. With the cooperation of a team of Brazilian colleagues, he was able to obtain seven hours of videotapes of the pilgrims, the festival and the events that took place. The purpose of this project was to edit the videotaped material and to prepare a videotape suitable for classroom use.

LATEST REPORT: The narrative and the interviews were translated from the Portuguese to English, subtitles prepared, and the film edited to a 30-minute documentary/instructional videocassette presentation. An additional 30-minute introductory videotape was also prepared. With the guidance of an instructor, the student will better be able to understand some of the subtleties which take place at Caninde as well as in one's own culture.

Peer review of the video presentation was generally favorable; several minor changes may be made if technically feasible. Thus far, the presentation has been shown to 130 students. Once the changes are implemented, the tapes will be offered to UWM's Center for Latin America for publicity and distribution. The Directors expect the videotapes to be useful in classes in Anthropology, Communication, Geography, History, and Religion.

| | |
|---|---|
| Sidney M. Greenfield<br>Anthropology and Sociology<br>UW-Milwaukee | John B. Gray<br>Educational Communications<br>UW-Milwaukee |
| UPDATE 8/86 | AMOUNT $6,423 |

DESCRIPTORS
*Religion; *Anthropology; *Latin American Studies
Audio Visual TV Taped

845012 A

# TITLE: INTERACTIVE MICROCOMPUTER PROGRAMS FOR ZOOLOGY STUDENTS AT UW-RIVER FALLS: SURVEY OF THE KINGDOMS ANIMALIA AND PROTISTA

Computer assisted instruction has tremendous potential in survey courses on the animal and protist kingdoms, since it enables students more easily to understand and integrate the large volume of information inherent in these courses.

The goal of this project was to develop microcomputer software covering some of the more complex life cycles discussed in the general zoology course at UW-River Falls. These programs make extensive use of animated color graphics to teach animal and protist life cycles, and then allow the students to test themselves repeatedly on the material, using a series of multiple-choice and fill-in questions. They are interactive in that the student can review selected portions of the life cycles or be tested on the material at any time. Students are given three chances to answer fill-in questions correctly (with hints after incorrect responses) before they are given the correct answer. Students also receive a score at the end of the program which indicates how many questions were answered correctly.

LATEST REPORT: Four microcomputer tutorials (for the Apple IIe) have been written, debugged, and extensively tested by students. These cover the life cycles of Plasmodium, Necator, Clonorchis, and Obelia. Students enrolled in general zoology during Winter 1985 and Spring 1985 were surveyed by anonymous questionnaire as to the value of the programs. Reaction to the programs has been very favorable; a large majority of students feel that they make the life cycles easier and more interesting to learn. In addition, students felt that their performance on examinations was improved by their use of CAI as a means of review. The majority also felt that the overall quality of the animated graphics and written text was excellent. In the future, approximately 160 General Zoology students will use the programs every year.

Use of CAI has allowed general zoology instructors to spend more time on ecological and evolutionary implications of these organisms, as was originally hoped. A modified version of the programs completed under this project has been published and is being marketed nationwide by Ward's Natural Science Est., Inc. The original programs are available to others in the UW System. The Project Directors hope to expand the project to include additional invertebrate life cycles.

Mark Bergland
Biology
UW-River Falls

UPDATE 8/86 AMOUNT $4,923

DESCRIPTORS
- *Zoology
- Computer Multiple Applications

845013 A

TITLE: COMPUTER GRAPHIC ENHANCEMENT OF INTRODUCTORY STATISTICS

A variety of departments on every campus in the UW System offer introductory statistics courses. A range of topics in these courses can best be explained when lectures are accompanied by appropriate graphic illustrations; however, textbooks, instructor prepared overhead transparencies, and commercial statistical packages are not suited for many of the types of demonstrations that are needed.

This project is to develop computer graphic modules to enhance undergraduate introductory statistics courses in a variety of disciplines. Project Directors will 1) develop interactive software modules to illustrate major statistical concepts; 2) evaluate effectiveness of these modules in improving the understanding of the concepts covered in each module; and 3) implement these modules in statistics courses at UW-Stevens Point and sister campuses.

Evaluation techniques will include the use of these modules by several independent instructors as well as the Project Directors, student assessment of the clarity of each presentation, and testing for the understanding and retention of the concepts.

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|---|---|
| George C. T. Kung<br>Mathematics<br>UW-Stevens Point | Paul K. Schwieger<br>Psychology<br>UW-Stevens Point |
| UPDATE 1/84 | AMOUNT $6,770 |

DESCRIPTORS
- *Statistics
- Computer Graphics

845014 A

# TITLE: SIMULATION OF MATCHING LEARNER CHARACTERISTICS WITH TEACHING METHODS IN SPECIAL EDUCATION CLASSROOMS

The purpose of this project was to develop a microcomputer software package which would help undergraduates learn how to plan appropriate instruction for special education students. The aim of the project was to enhance the instruction provided in two courses in special education: "Curriculum for the Retarded" (431/559) and "Special Education Methods and Materials" (431/560). The courses fulfill basic competencies required of all teachers licensed to teach educable mentally retarded students. This program could be used in any teacher training program to enhance the learning of required competencies and may also have applications for inservice programs and for teaching regular education teachers how to plan for special needs students in the mainstream.

LATEST REPORT: The simulation was written in Apple Super Pilot. The simulation asked the teacher to select appropriate objectives, activities, materials, and evaluation methods in various content areas for groups of students with special education needs. The program then "taught" the teacher's plan and reported how successful the lesson plan was in terms of mastery by the group of students simulated. The program allows users to try various combinations of elements to see which combinations are the most effective.

The simulation was used in "Special Education Methods and Materials" (431/500) and evaluated through exit interviews. All but one student progressively improved performance and responded positively to the program. However, success depended on prior experience using microcomputers.

Future developments will focus upon simulations which begin with only a few variables and add variables progressively. Also a more versatile programming language than Apple Pilot may be used.

Daniel R. Paulson
Education and Human Services
UW-Stout

UPDATE 8/86 AMOUNT $3,000

DESCRIPTORS
    *Special Education
    Computer Simulation

845015 A

# TITLE: THE DEVELOPMENT OF INSTRUCTIONAL VIDEOTAPES FOR DISSECTION PROCEDURES IN PHYSIOLOGY AND ANATOMY

The physiology and anatomy course at UW-Stout enrolls approximately 300 students in eight sections per semester. The major laboratory activity of the course centers on dissection. Dissections require time-consuming demonstrations by the instructor, which often do not allow for adequate student preparation for their own dissection activities.

This project is designed to develop a series of instructional videotapes showing various dissection procedures. These will be carefully planned and prepared for maximum clarity and visibility in a limited time frame. The tapes will be available for previewing upcoming dissections, for viewing immediately before the actual class, and for review.

LATEST REPORT: Thirteen tapes were completed during Summer 1984. The tapes correspond to the major dissections which are performed in the physiology and anatomy courses at UW-Stout. The tapes include one on cat skinning, two on muscles of cat, three on sheep brain, one on sheep eye, one on digestive system of cat, one on sheep heart, three on blood vessels of cat, one on sheep kidney, and two on urogenital system of cat.

The tapes were used in six sections of 32 students each. Informal evaluations from students and instructors have been excellent. Student dissections have been judged to be less frustrating and of much better quality than in the past. Not only have the tapes been used for teaching dissections, but also for review in preparation for the practical examination. For the future, the tapes will be placed on reserve in the library.

The tapes were formally evaluated by students in four sections and these will be computer scanned in Summer 1985. Two UW-Eau Claire biology faculty members have evaluated the tapes and expressed interest in using them for their classes.

George H. Nelson
Biology
UW-Stout

UPDATE 8/86 AMOUNT $4781

DESCRIPTORS
*Biology
Audio Visual TV Taped; Laboratory Sciences

845016 A

## TITLE: A BASIC COURSE IN RELATIONAL THINKING

This project was a basic course in relational thinking designed to be taken during the first semester by freshmen at UW-Stout and other UW System institutions. The course is intended to enhance relational thinking skills, thereby improving student achievement in the basic skills in the liberal arts and sciences, and in professional subjects.

The basic course, when complete, will include eleven modules: an introductory module on the difference between informational and relational thinking; five modules on relational thinking skills--defining, comparing and contrasting, categorizing, deductive reasoning, and inductive reasoning; and five modules employing these skills in diverse thinking strategies--applying, creating, problem-solving, forecasting, and simulating. Each module will be composed of printed material, including explanations, examples, and extensive practical exercises, as well as a videotaped presentation of the printed material, which will render the module appropriate for self-instruction.

Implementation will involve development of a course outline focusing on both competencies and content of each module, the creation of the printed learning materials, and the development and videotaping of the presentations. The outcomes will be a course outline, a book of roughly 110 pages, and eleven videotaped presentations. The Project Director will teach two experimental classes. The outcomes of the project will be evaluated by examinations during the course and written evaluations by the students at the conclusion of the course, and by tracking students to determine whether their subsequent performance has been aided by the course.

LATEST REPORT: Half the project has been completed and awaits additional funding for final completion.

R. M. Barlow
Philosophy and English
UW-Stout

UPDATE 8/86 AMOUNT $3,939

DESCRIPTORS
*Philosophy
Course Development; Audio Visual TV Taped

845017 A

# TITLE: DEVELOPING MICROCOMPUTER MODULES WHICH WILL INCREASE EFFICIENT USE OF TECHNOLOGY IN THE CLASSROOM

Teacher education programs in Wisconsin need to include materials which will enhance both use of the microcomputer and understanding of the microcomputer as it relates to all areas of education. The college student participating in professional preparation programs in science, social science, mathematics, English, health, physical education, special education, safety, elementary education, and many others must become comfortable with the technology in teaching.

This project created an interdepartmental program in the College of Education whose purpose was to infuse existing courses in pedagogy and field experiences with computing experience and understanding.

Faculty members who teach professional courses to prospective teachers met in three seminar sessions, which included: 1) four full days (August 13-16, 1984); 2) a four-hour session in November, 1984; and 3) a one-day session between semesters in January, 1985.

LATEST REPORT: The participants developed a better understanding of how the computer could be used in different learning experiences for the student preparing to provide information in the classroom or training environment. The faculty became acquainted with available software and applied the use of the software to particular modules within a course in specific areas of professional preparation. Since very little knowledge about or use of technology had been evident prior to the seminars, the use of the computer in the teaching of courses certainly effected change.

Project evaluations were very positive with a request that further opportunities be provided for development of modules, since the time available for search and application of software was minimal following the gaining of confidence and understanding of one form of technology in teaching.

The College of Education is extremely pleased with the outcome of the seminar. The experience has promoted interest and new initiatives; the leaders of the original seminar are developing a follow-up seminar to assist other faculty in an attempt to increase personal skill in the use of technology.

Sample modules are available from Dr. Phillip Makurat, Coordinator, Microcomputer Lab, Winther Hall, University of Wisconsin-Whitewater, Whitewater, WI 53190.

M. Corinne Clark, Chair
College of Education Curriculum Committee
UW-Whitewater

UPDATE 8/86 AMOUNT $10,250

DESCRIPTORS
*Education; *Faculty Development
Computer Multiple Applications; Faculty Development

845018 A

# TITLE: ENHANCING THE HONORS PROGRAM AT UNIVERSITY OF WISCONSIN CENTER-WAUKESHA

UW Center-Waukesha has become well known in its community for its commitment to serving the underprepared high school student and adults returning to school. Unfortunately, this commitment has tended to obscure a concern for the gifted and well prepared among recent high school graduates and adults. To ensure that qualified students were adequately challenged, an honors program, with cooperative ties to degree granting campuses, was established at UWC-Waukesha in 1978 so that students could transfer as sophomores with honors. Though several courses are now offered for honors and 47 students took honors courses in the last two academic years, there still are academic fields in which honors work is not available. Thus students find it difficult to complete twenty credits in honors with courses in humanities and social and physical sciences while also taking the courses they need for their degree program. This project will allow a faculty member in chemistry to write new course materials for an honors discussion section as part of the two semester survey of general chemistry and a faculty member in mathematics to prepare a new mathematics course exclusively for honors students. These additions will make it feasible for honor students to complete their twenty credit sophomore honors program, because they will fill two gaps: the need for a mathematics course appropriate for non-science majors and for a laboratory science survey course.

The success of the program will be evaluated in several ways, including an assessment of the percentage of students who complete the honors work in these courses and their comments on whether the courses were an enriching, worthwhile experience.

Gary J. Udovich
Chemistry
UWC-Waukesha

Harvey S. Fox
Mathematics
UWC-Waukesha

UPDATE 1/84

AMOUNT $4,139

DESCRIPTORS

*Chemistry; *Mathematics
Honors Programs

845019 B

# TITLE: BRIDGING THE GAP BETWEEN READING METHODS CLASSES AND THE ELEMENTARY SCHOOL CLASSROOM

The purpose of this project was to develop five half-hour videotapes that would provide concrete examples of model strategies for teaching reading in the elementary school. By integrating theory with practice, clarifying subtleties of the teaching/learning processes, and improving observational skills as a method of improving teaching skills, these videotapes bridge the gap that stubbornly exists in teacher education programs between the university classroom and the world of the elementary school teacher.

Derived from standard curricula in undergraduate reading methods courses, the videotapes focus on model teaching strategies of 10 to 20 minutes duration, through which students observe teachers teaching children at various grade levels specific word attack, comprehension, and vocabulary skills. In addition, some of the segments demonstrate effective instruction in two major approaches to teaching reading: the basal reader and the language experience approach. A manual demonstrates effective instruction in basal and content area materials.

An advisory committee of principals, classroom teachers, and directors of reading programs in the Milwaukee Public Schools and suburbs will evaluate the tapes and manual during and after production. In addition, faculty reviewers from several UW System reading programs will provide feedback.

LATEST REPORT: To date, the training of the elementary school teachers, subsequent videotaping of them in their classrooms, and supplementary manuals have been completed. Further editing of the tapes will follow the evaluation phase of the project. To date, over 100 students have viewed one or more tapes and have responded enthusiastically. The Project Directors look forward to wide dissemination of the tapes to other System campuses in the near future.

Mary Jett Simpson
Curriculum and Instruction
UW-Milwaukee

Robert Barganz
Curriculum and Instruction
UW-Eau Claire

Susan W. Masland
Curriculum and Instruction
UW-Milwaukee

Paul Sendry
Television Services
UW-Milwaukee

UPDATE 8/86

AMOUNT $21,407

DESCRIPTORS
*Teacher Education, *Elementary Education
Audio Visual TV Taped

845020 B

TITLE: INTERACTIVE COMPUTER VIDEO DRILLS IN FRENCH

The Modern Language Departments/Units at UW-Stout and UW-River Falls will develop fifteen intermediate level interactive video exercises in French. The format of each section will be a short videotape clip of a French film followed by the appearance of a native speaker on the screen posing a series of questions based on the clip. After each question, the student will be given a series of possible answers, as well as the options of repeating the question or seeing the clip again. A right answer calls back the speaker with a right answer message and moves the student on to the next question. A wrong answer calls back the speaker with a specific wrong answer message. After a wrong answer, the program may call up a short clip of the film before allowing the student a second chance. The student may stop or continue after each section.

This project is conceived as a pilot for future video/computer interaction as technology develops. It should be readily convertible to laser disk as these become more available.

Since the exercises will not be specifically geared to any particular textbook, they will be usable on other campuses. The computer programs and techniques so developed will also be adaptable for use in other subject areas.

The teaching issue to be addressed is an effort to move away from one dimensional use of audio and video technology (film strips, tapes, movies), and the totally type-oriented computer drill, toward student interaction with authentic linguistic and cultural materials. The outcome of the project will be evaluated by surveying students' comprehension of a filmed native speaker both before and after the project.

LATEST REPORT: The film which has been selected for the project is Moliere's Le Bourgeois Gentilhomme, performed by the Comedie Francaise, because it is in the public domain and in color. A series of questions has been written to check student comprehension of language, character, and plot, as well as to elicit personal opinions. The project was fortunate in being able to hire a native speaker with many years of experience as a television host, and in being able to use the studio and personnel of WHWC-TV. The resulting product will be contained on three videotapes and accompanying diskettes suitable for use on Apple equipment. Development will continue through 1985.

| | |
|---|---|
| Sandra Soares<br>Modern Languages<br>UW-River Falls | Martha Wallen<br>French and Spanish<br>UW-Stout |
| UPDATE 8/85 | AMOUNT $12,268 |

DESCRIPTORS
- *French
- Computer Interactive Videotape

845021 C

TITLE: PILOT CENTER FOR TEACHING ENHANCEMENT

The purpose of this proposal was to create a pilot center for teaching enhancement at the UW-Whitewater. This center was needed, since the UW-Whitewater faculty had not had an opportunity to be part of a formal examination of teacher performance or to explore experimental up-to-date teaching strategy. The anticipated result was a long range improvement in teaching performance and greater effectiveness in stimulating student learning.

LATEST REPORT: The Teaching Enhancement Center sponsored seven pedagogical activities in 1984-85, including conferences and other activities on lecture delivery and generating class discussion; a grantsmanship workshop; sessions for every department on teaching disabled students; development of a teaching resources library; and acquisition of videotape equipment for instructors' self and peer evaluation. The Center also offered ten workshops on classroom use of microcomputers, as well as individualized consulting and a software fair; the Center acquired an Apple IIc and software for individualized instruction. The Center was widely publicized and its activities thoroughly evaluated.

About 30% or 160 UW-Whitewater faculty and staff attended one or more Center activities, as did faculty from UW System campuses at Milwaukee, Waukesha, Parkside, West Bend, Janesville, and Platteville. Overall, 94% of those attending rated Center events fairly to extremely worthwhile. Of all attendees, 40% indicated that they adopted or planned to adopt new techniques; 65% of those who attended two or more events so indicated.

The Center will continue under a half-time director and two quarter-time associate directors. Microcomputer and grantsmanship activities will continue and conferences on evaluation and writing across the curriculum are planned. The Center will participate in new faculty monitoring and student orientation programs.

CAI materials and Center evaluation instruments are available from the Center.

Janet A. Anderson, Chair
Academic Development Committee
UW-Whitewater

UPDATE 8/86 AMOUNT $20,000

DESCRIPTORS
*Faculty Development
Faculty Development; Centers

845022 S

## TITLE: NATIVE AMERICAN PHILOSOPHY AND RELATIONSHIPS TO PLANT LIFE

The purpose of this project was to produce an instructional videocassette presentation to enrich the teaching of Native American philosphy through basic aspects of ethnobotany. The videotape focuses on Nokomis Giishik (Grandmother Cedar) and has two parts: Part I is on "The Legend of Grandmother Cedar, as Told by Three Loons [an educator and storyteller from the Chicago area]," and is 23 minutes long; Part II is on "What Grandmother Cedar Shares With Us, as Told by Keewaydinoquay," and is 33 minutes long. Keewaydinoquay is a member of a community on an island in one of the Great Lakes. Members of this community practice many traditional methods involving uses of Grandmother Cedar, Grandfather Birch, and other forms of plant life.

LATEST REPORT: The main problem encountered in developing the videotape was that resources were too limited to allow a video crew to travel to Keewaydinoquay's community to document the demonstrations and practices involving Grandmother Cedar. However, many 35mm transparencies were available and a still photographer was able to visit the community to supplement the existing transparencies.

Assessment of the videotape through peer and student evaluation will be carried out when the revised product is ready. Thus far, 50 students in Keewaydinoquay's classes have viewed the initial videotape. The Project Directors plan to make the final product available to upper elementary school grades, high schools and post-secondary institutions.

The Directors are considering development of a follow-up videotape presentation on Grandfather Birch (Mishomis Wigwass) to be videotaped in the community mentioned above.

| | |
|---|---|
| John B. Gray<br>Communications Specialist<br>Educational Communications Division<br>UW-Milwaukee | Keewaydinoquay<br>Traditional Elder and Lecturer<br>Native American Studies<br>UW-Milwaukee |
| UPDATE 8/86 | AMOUNT $8,247 |

DESCRIPTORS
*Anthropology, *Botany
Audio Visual TV Taped

# GRANTS AWARDED

## 1985 - 86

856001 A

TITLE: DEVELOPMENT OF VIDEOTAPED CURRICULAR MATERIALS OF YUCATAN, MEXICO, TO ENRICH THE CROSS-CULTURAL LEARNING EXPERIENCES FOR SOCIAL WORK MAJORS

The interdisciplinary curriculum at University of Wisconsin-Green Bay has a strong cross-cultural emphasis which includes on-site study of social and physical environmental issues in many foreign nations. However, older adult students who have family and work responsibilities are frequently prevented from traveling to another country for a learning experience. The need for a comparable on-campus version of a cross-cultural course is most critical for social work majors, where uniformity in the curricular standards for professional preparation is essential, and where a cross-cultural course is a requirement for all majors.

The purpose of this project is to develop videotapes which can be used to enrich the cross-cultural content of an on-campus version of the course currently taught each January in Yucatan, Mexico. From videotaped footage shot on site in Yucatan, the Project Directors will develop nine one-hour videotaped programs combining faculty and guest lectures, visits to cultural and historical sites, visits with social service agencies, and interviews conducted in the villages and homes of the inhabitants. These tapes will expose students to cross-cultural and human diversity issues essential for undergraduate social work training at UW-Green Bay. In addition, the interdisciplinary nature of the videotapes will make many of them useful for classes in the humanities, social sciences, and natural sciences.

Evaluations of the project will be conducted by comparing the student responses to an evaluation questionnaire for both the Yucatan and Green Bay versions of the course. A separate questionnaire will be developed to be completed by faculty of other departments who use specific taped instructional units from the larger program.

David H. Galaty
Humanistic Studies/Social Studies
UW-Green Bay

Rolfe E. White
Social Services
UW Green Bay

8/85

AMOUNT $11,954

DESCRIPTORS
- *Social Work
- Audio Visual TV Taped

856002 A

TITLE: MICROCOMPUTER USE IN THE FIELD OF PLANNING: DEVELOPING SPATIAL ANALYSIS INSTRUCTIONAL CAPABILITIES

With UW-Green Bay Venture Fund support, the Project Director developed materials for a new course titled, "Use and Application of Computers in Planning." As a result of this effort, many tasks associated with urban and regional planning that are addressable via computers can be presented to UW-Green Bay students. Classroom exercises available include cost-benefit analysis, population projection, survey generation/analysis, journey to-from analysis, and various problem specific (e.g., soil erosion, street, stream management) management programs. These exercises represent a considerable contribution to the education of students whose interests lie in socio-economic, transportation, land use, and/or resource planning.

Because of technological advances, planning agencies are moving almost exclusively to microcomputers. This movement highlights an important and glaring weakness in UW-Green Bay's microcomputer capabilities for the field of planning: the inability to analyze spatially distributed data/information. Important aspects of such information commonly used in planning are coverage area, juxtaposition, and overlay tendencies. With such information, planners can conduct environmental impact analyses, develop land-use plans, transportation route location studies, and similar tasks.

This project is aimed at eliminating the weakness identified above and upgrading the current computer-oriented planning course to include analysis of spatially distributed information. The project will include computer program identification and development, applications identification, course materials development and adaptation (data, software, course readings and lecture materials) and microcomputer equipment updating and acquisition. To this end, UW-Green Bay has made the commitment of matching support of a minimum of two complete microcomputer systems capable of storing, analyzing, and displaying data/information with the above characteristics. These capabilities, combined with those already developed, will yield a highly substantive course on the use of microcomputers in planning.

William R. Niedzwiedz
Regional Analysis
UW-Green Bay

8/85 AMOUNT $5,960

DESCRIPTORS
*Urban Studies
Computer Multiple Applications

856003 A

TITLE: COMPUTER ANIMATION IN THE CHEMISTRY CLASSROOM

Many concepts of chemistry are difficult to show using a blackboard. A microcomputer offers the opportunity to introduce animation into the classroom lecture. It is proposed that a number of software modules be written which will show various chemical phenomena on television monitors. The modules will be interactive, and the instructor can show the animation, change variables, plot data, etc. In a few cases, the computer would even make measurements of such indicators as temperature. These modules would be used in General Chemistry and Organic Chemistry classes. These are the courses with by far the greatest enrollments.

The project will be evaluated by how many modules are developed, whether students seem to learn better, and how students react to them in the classroom.

Ronald D. McKelvey
Chemistry
UW-La Crosse

8/85 AMOUNT $7,892

DESCRIPTORS
*Chemistry
Computer Graphics

856004 A

# TITLE: SMALL-GROUP LEARNING IN A BOTANY COURSE FOR NON-SCIENCE MAJORS

Many students who major in areas other than science feel apprehensive about learning scientific subjects, even in courses designed for non-science majors. Students complete these courses with a basic understanding of the field, but their ability to apply the knowledge is limited. Because introductory courses for non-majors are often the last science class students take, this may be the only opportunity instructors have to promote scientifically-literate college graduates. To become scientifically literate, students need experience in using and applying scientific information. The non-majors course (Botany 100: Survey of Botany) should present the fundamental concepts of botany, demonstrate the relationship between theory and practice, and give students the chance to apply these ideas to contemporary problems which have a biological basis. The goal of the course is to improve the students' learning of fundamental concepts and to provide them the opportunity to use their new knowledge and to gain confidence in their ability to analyze and understand important scientific issues.

The purpose of this project is to change the format of the course to increase the students' small-group learning time (one discussion and one project session each week). The small-group instruction will be designed to clarify and expand on recent lecture material and to provide an avenue to address relevant problems of current interest. The Project Directors have already prepared a modified syllabus for the course which includes the lecture schedule and the topics for the related discussion and project sessions. The tasks that remain are to design the small-group instruction, gather materials, construct teaching aids, and write handouts, teaching guides, and study guides.

The cognitive aspects of this project will be evaluated through analysis of examination scores and direct observation of students' abilities to use and apply concepts in discussions and projects. The project's impact on students' perceptions and attitudes toward science will be solicited by mid-semester and final course evaluations.

| | |
|---|---|
| Kenneth Keegstra<br>Botany<br>UW-Madison | Judith Croxdale<br>Botany<br>UW Madison |
| 8/85 | AMOUNT $10,430 |

DESCRIPTORS

*Biology; *Teaching Assistant Training
Teaching Assistant Training; Discussion Techniques

856005 A

# TITLE: ANIMATED FILM ILLUSTRATING DNA REPLICATION

Understanding the basic concepts of molecular biology is now an integral part of the biology curriculum. The topics of DNA synthesis, gene regulation, recombinant DNA technology, and the molecular basis of cancer are presented to students in introductory as well as advanced classes. In teaching these aspects of biology, an approach which integrates visual examples to create a vivid picture of the process being presented is essential. This approach is hampered by a general lack of suitable visual aids. Many of the topics taught in introductory biology courses today were unknown a decade ago, and the commercial producers of visual aids have been slow to fill the gap. To address this problem a project was begun two years ago, with Undergraduate Teaching Improvement Grant funding, to create suitable visual aids. In that project, molecular models were photographed to generate a series of sequential 35mm slides to illustrate a molecular process. The slide sets now are used extensively both within UW-Milwaukee and at other institutions as well.

This project will build upon the technology learned in the previous project through production of a motion picture illustrating DNA synthesis at the molecular and cellular level. This film will be made using the stop motion animation technique. In this technique, which is used commercially to general "special effects," models are positioned and moved minute distances; a single frame is shot at each interval. When the completed film is shown at normal speed the frozen steps blend into motion. Utilizing this technology, any form or shape can be made to seem alive and real. The Project Director will make a film of DNA being replicated (synthesized) in which the individual enzymes and steps involved can be seen to carry out their functions in real time. This visual presentation will make this process seem real and will coalesce the multiple steps which appear as disparate entities in static representation.

The success of the 35mm slide sets provides ample indication of the applicability of this project. The knowledge gained and the technology generated during that project demonstrate the feasibility of this project, and the experiences of using those slides in the classroom has shown that there is a real and pressing need for the proposed motion picture.

Peter J. Wejksnora
Biological Sciences
UW-Milwaukee

8/85 AMOUNT $8,778

DESCRIPTORS
- *Biology
- Audio Visual Film

856006 A

TITLE: DEVELOPMENT AND TESTING OF MICROCOMPUTER SOFTWARE FOR SECOND-YEAR SPANISH COURSES

This project will address the needs of the Department of Spanish and Portuguese, UW-Milwaukee, to improve its Spanish language instruction in second-year courses by developing and implementing microcomputer courseware for drill and practice on selected points of Spanish syntax. There is almost no commercial software available for second-year Spanish in Apple format although recent studies have shown the effectiveness of computer-assisted instruction in areas of foreign language grammar.

The project will produce a set of programs in BASIC on seven topics in Spanish syntax based on the content and vocabulary of the current second-year text. Certain innovative techniques in programming, such as the generation of correct response models internally and the use of adaptive progression to higher levels of difficulty, will be incorporated. Utility programs will allow UW-Milwaukee staff and other teachers of Spanish to edit the textfiles by introducing alternate vocabulary for the exercises. The project will also attempt to assess the effectiveness of CAI in foreign language instruction in the context of second-year Spanish by comparing student progress on the target topics with their performance on selected non-computerized subjects. The evaluation of the project will review the results of this testing as well as the data on student attitudes toward CAI in their courses.

Oliver T. Myers
Spanish and Portuguese
UW-Milwaukee

8/85 AMOUNT $5,160

DESCRIPTORS
*Spanish
Computer Autotutorial

856007 A

# TITLE: EXPLORATION OF USES FOR VIDEOTAPE IN TEACHING PRODUCTION TECHNIQUES FOR OPERA

Full-scale productions of operas play a major role in the training of singers and of technical theatre students at UW-Milwaukee, but limited facilities and resources permit production of only two full operas every three years. As a result, students who begin work on such productions rarely have a clear idea of just now the overall production process functions, or even what the final product will be like, particularly since the unconventional form of UW-Milwaukee's theatre forces use of a very untraditional physical arrangement for productions. In addition it is difficult to teach about this production process in more general introductory courses on technical production or opera because the preparation process extends over many months and even observation of isolated rehearsals tells the student little about what is being done.

In this project the Project Directors will make extensive use of videotape to document the preparation of the major opera to be produced at UW-Milwaukee during 1985-86. Several steps in the process, from technical preparation to final performance, will be documented on tape. From this documentation, two instructional tapes will be edited for use in preparing future singers and theatre technicians for their work on productions. In addition, the Project Directors will experiment with a variety of ways of using videotape within the rehearsal and production process itself to facilitate student preparation and development of performance and technical skills. By this experimentation the Project Directors hope to develop guidelines for the most effective use of videotape in future productions so that the departments can get maximum benefit from their limited funds for support.

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|---|---|
| Corliss E. Phillabaum<br>Theatre and Dance<br>UW-Milwaukee | Paul T. Sendry<br>Educational Communications<br>UW Milwaukee |
| 8/85 | AMOUNT $8,600 |

DESCRIPTORS
*Music; *Theatre
Audio Visual TV Taped

856008 A

TITLE: INSTRUCTIONAL SOFTWARE FOR GEOTECHNICAL ENGINEERING

The purpose of the proposed project is to develop microcomputer software for two undergraduate courses in geotechnical engineering. These courses are CE 335--Soil Mechanics and CE 456--Foundation Engineering. In this project the Project Director will develop tutorial programs which will complement the textbooks and lecture material and programs for simulation and demonstration of laboratory testing concepts and analysis. The tutorial programs will include explanatory text and graphics to clarify concepts and analysis procedures. Each student will obtain the packet of instructional software for the particular course and may use the materials for self study and review. The programs will be of considerable help to the student in gaining an understanding of the concepts and principles of geotechnical engineering, will demonstrate the methods of analyses, and will permit the student to study the effects of variations of conditions and parameters on the analyses. The programs will also familiarize the students with the use of microcomputers in geotechnical engineering practice.

Effectiveness of the instructional software will be evaluated from specific student suggestions at the time the programs are used and from results of questionnaires distributed at the end of each course. The results will be used for continuing development and revision of the material.

Gilbert L. Roderick
Civil Engineering
UW-Milwaukee

8/85 AMOUNT $5,823

DESCRIPTORS
    *Engineering
    Computer Autotutorial

856009 A

TITLE: REVISION OF "I'M A LOT LIKE YOU" MAINSTREAMING PROGRAM

The purpose of this proposal is to revise, update, and expand the modular program "I'm a Lot Like You" Mainstreaming Project. The content of this project meets the needs of regular education teachers as mandated by P.L. 94-142 and Wisconsin Law 1973, Chapter 89, Section 115 Wisconsin Statutes, that regular teachers have coursework or inservice training in exceptional education in order to teach mainstreamed students. The regular education teachers need skills in data collection and skills to work with students who deviate from the norm. These skills are taught through a modular approach as provided by the "I'm a Lot Like You" program. The instructional materials consist of videotapes and a director's manual accompanying activities incorporated into training modules. The revision will focus on the manual and include refining the design, adding current and relevant information (articles, bibliographies, pretest, posttest, etc.) and incorporating information obtained from questionnaires sent to trainers, students, and purchasing agencies. These revisions should provide more effective training for regular education teachers by (a) providing recent information on assessing individual differences, (b) aiding in developing an understanding of mainstreaming, and (c) exposing regular education teachers to skills and techniques appropriate when programming for individual differences. The project can be used for preservice and inservice on the elementary and secondary levels.

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|---|---|
| Gloria Robinson-Simpson<br>Exceptional Education<br>UW-Milwaukee | Joseph Wade<br>Exceptional Education<br>UW Milwaukee |
| 8/85 | AMOUNT $4,933 |

DESCRIPTORS
- *Special Education
- Course Development

856010 A

TITLE: USES OF MNEMONIC DEVICES AS A MEANS OF RECORDING HISTORY AND TRANSMITTING CULTURE IN WEST AFRICAN MUSIC, DANCE, AND ART: A VIDEOCASSETTE PRESENTATION

The objective of this project is to produce a 20-30 minute instructional videocassette presentation. This videocassette will demonstrate the uses of mnemonic devices employed in West African music, costume, and dance as a means to record and communicate history.

History, technical information, and other cultural values are still communicated through oral tradition which includes narrative, epic, storytelling, myth, and mnemonic devices. Seeing and hearing these via the video presentation will be useful to undergraduates in the study of dance, music, Afro-American studies, education, history, ethnic studies, and anthropology.

A study guide will be designed for use in conjunction with the video presentation. A written test will be given to evaluate retention.

UW-Milwaukee is most fortunate to have access to the internationally renown Milwaukee-based Ko-Thi Dance Company which specializes in traditional West African dances from Senegal, Guinea, Sierra Leone, Nigeria, and Haiti. Led by Ferne Yangyeitie Caulker-Bronson, the Ko-Thi Dance Company has volunteered its complete resources for meeting the objectives of this project.

Ferne Yangyeitie Caulker-Bronson
Theatre and Dance
UW-Milwaukee

John B. Gray
Educational Communications
UW Milwaukee

8/85

AMOUNT $5,806

DESCRIPTORS
*Dance; *Theatre; *Interdisciplinary
Audio Visual TV Taped

856011A

TITLE: THE MICRO ORGANIC CHEMISTRY LABORATORY: A DEMONSTRATION PROJECT

This project will introduce into the University of Wisconsin System the micro organic chemistry laboratory program developed for a cost of $150,000 at Bowdoin College, Brunswick, Maine. This micro organic laboratory is in direct contrast to the organic chemistry laboratories on UW System campuses in that experiments are performed on a scale of 50-200 milligrams instead of the usual 20,000-50,000 milligrams.

There are obvious as well as surprising outcomes of this drastic reduction of scale in a teaching laboratory. They include reducing the concentration of hazardous chemicals in the laboratory air without costly laboratory renovation, as well as reducing the hazards of fire and explosion, and the quantity of potentially hazardous wastes. Chemicals and glassware costs will be lowered. Other benefits are that the format permits the use of significant experiments which previously were too expensive, while serving to increase student dexterity, accuracy, and understanding of laboratory procedures. More time will be available to perform other experiments and repeat failed experiments.

In this demonstration project the Project Director and one undergraduate will first do each experiment in the program. The Project Director will then teach one section of the organic chemistry laboratory using the micro scale experiments. The evaluation will include examinations and questionnaires of the students in the experimental micro scale laboratory as well as students in the regular macro scale laboratory. Promotional materials will be prepared for promulgation of this pedagogically better, environmentally safer, and fiscally cheaper method of teaching the organic chemistry laboratory.

Charles E. Sundin
Chemistry
UW-Platteville

8/85 AMOUNT $11,250

DESCRIPTORS
*Chemistry
Laboratory Sciences

856012 A

# TITLE: DEVELOPMENT OF VIDEOTAPES DESCRIBING BIOLOGICAL PHENOMENON AND ANIMAL HANDLING PRACTICES FOR IMPROVING STUDENT PROFICIENCY IN LABORATORIES OF ANIMAL SCIENCE COURSES

Two major problems exist in the teaching of laboratories in animal science. First, while laboratories are limited in student numbers per laboratory it is difficult to demonstrate animal husbandry and handling techniques to all without repeated use of demonstration animals. Second, it is virtually impossible to schedule naturally occurring biological phenomena such as birth and mating behavior to coincide with scheduled laboratory times. As a result of these two problems, time becomes limited in laboratory. Despite the repeated demonstrations, students approach animal handling situations hesitantly and fail to obtain the full benefits of the laboratory experience. Providing students with access to a videotape record of animal handling procedures prior to each laboratory experience would enable the student to visualize the technique readily and concentrate more on obtaining the full laboratory experience. Videotape recordings of natural biological events would allow the instructor to present these biological phenomena at the convenience of the laboratory schedule. The success of the use of these videotape recordings would be assessed by peer review and student evaluation of their benefit.

Philip B. George
Animal and Food Sciences
UW-River Falls

8/85 AMOUNT $9,017

DESCRIPTORS
*Meat and Animal Science
Audio Visual TV Taped

856013 A

## TITLE: LABORATORY EXERCISES FOR BASIC CHEMICAL CONCEPTS

The Project Director's book, Basic Chemical Concepts, is unique in its approach to the course objective which is to give the students an understanding of chemical principles while developing an appreciation for chemistry as a discipline. The present laboratory manual is also unique to this course, but is deficient in the following ways:

A. There are not a sufficient number of exercises to allow for variation from semester to semester. Using the same exercises every semester makes it difficult for the instructor to determine whether the student work is original.

B. Many of the present exercises require extensive pre-laboratory explanation. After fifteen years the Project Director knows how to incorporate most of this explanation in the written exercises.

C. None of the present exercises are open-ended, meaning there is no opportunity for the better student to do additional laboratory work. Each exercise should allow for "early finishers" to stay in the laboratory to try different solutions to the day's exercise.

The first part of this project, rewriting present laboratory exercises to include innovations and open-endedness developed the past fifteen years, is already in progress. This part of the project should be finished by July 20th and ready to go to the typesetting service, to be proofread, and to be sent to duplicating. The remaining time will be devoted to the second part of the project, development of additional laboratory exercises. Most of these are "in mind" but not yet written or tested.

Evaluation will be done during the academic year 1985-86. The 300 students taking the course will be asked to evaluate each laboratory exercise. This evaluation technique has worked very well for the other components of the course.

Oliver A. Andrews
Chemistry
UW-Stevens Point

8/85 AMOUNT $3,142

DESCRIPTORS
    *Chemistry
    Laboratory Sciences

856014 A

TITLE: PRODUCTION OF SHORT 16mm FILMS FOR USE IN TEACHING BIOLOGY

Professors in the biological sciences frequently lecture about extremely interesting organisms that students never get a chance to observe, especially in the living state. There are numerous reasons students do not get an opportunity to study such animals: (1) the cost of purchasing some animals is prohibitive; (2) some animals are not active during months the courses are taught; (3) collecting large numbers of animals for class is often impossible; (4) infrequent and spotty occurrence makes collecting chancy; (5) and culturing some of these animals with the present university facilities is difficult.

One way to supply a partial remedy for this situation is to show students short films of organisms undergoing specific biological processes. Numerous excellent biological films have been produced and are available. However, many are too long to insert readily into lecture or laboratory and many are very expensive.

The Project Director will produce nine 16mm short concept films useful in teaching introductory zoology, invertebrate zoology, cell biology, animal parasitology, and clinical parasitology, and edit eight films already produced. These films are intended to supplement other visual aids used in these classes.

Most undergraduates take at least one biology course. In addition, biology and natural resource majors and minors plus those entering the health fields take a number of biology courses. The short films produced through this project would benefit all these groups and their instructors.

Stephen J. Taft
Biology
UW-Stevens Point

8/85 AMOUNT $6,911

DESCRIPTORS
*Biology
Audio Visual Film

856015 A

# TITLE: COMPUTER-AIDED INSTRUCTION: WORD PROCESSING IN EXPOSITORY WRITING

Word processing appears to have arrived, to be the means whereby students will compose their prose in their future lives. In addition to making editing of one's prose a simpler task, word processing makes more extensive revision of prose easier and, available evidence shows, thereby encourages students to spend more time revising their manuscripts--a step widely recognized as essential to the production of polished prose.

Continuing and expanding upon a successful experimental series of both freshman and upper-level computer-aided writing courses at UW-Superior, the Project Directors will: (1) refine their methodology; (2) train student assistants and faculty unfamiliar with word processing; (3) and explore a system of continuous enrollment in freshman-level writing courses (made possible through the use of assistants and the computer-aided revision techniques to be put into place). The Project Directors anticipate that this proposal will improve student retention and student morale, and in addition make better use of university resources. The ultimate goal of this proposal is to shift all writing courses at UW-Superior to a computer-aided format within the next two to three years, beginning with the basic college-level course, English 101, in the fall of 1986, and growing from there. The use of student assistants and the introduction of continuous enrollment are unique features of this project, and the regular use of word processing in all freshman English courses has to date been untried in the UW System.

Roger Forseth
English
UW-Superior

Deane Minaham
English
UW-Superior

Norman Christensen
English
UW-Superior

8/85

AMOUNT $4,940

DESCRIPTORS
*Basic Skills English Composition
Computer Word Processing

856016 A

## TITLE: TEACHING INSTRUMENTAL TECHNIQUES TO STUDENTS IN COMMUNICATIVE DISORDERS

Since the fall of 1984, the use of the recently developed speech and hearing science laboratory in the program in communicative disorders has steadily increased. As the use of the laboratory increases, a method for teaching students to operate the equipment in the laboratory is necessary. This project provides a method for teaching instrumentation to students with no change in curriculum.

Specifically, the purpose of the project is to develop a series of six videotapes to teach instrumentation to students in communicative disorders. The development of the videotape series has direct application yearly for approximately 45 students providing clinical treatment in the Center for Communicative Disorders, and for approximately 100 students in five classes in the program in communicative disorders.

The series of videotapes, ranging in length from 30 to 50 minutes, teaches basic skills for operation and calibration of twelve pieces of equipment. The controls on each instrument panel are videotaped with an audio narration of specific step-by-step directions for operating and calibrating the instrument. Students in training, learning to operate the equipment, are videotaped. The human components of teaching and learning are balanced with the technical elements of operation of the instruments.

The project will be assessed through written student evaluations, before/after viewing questionnaires, observations of "hands on" operation of equipment by students, and frequency counts of tape use and Systemwide loans.

Mark Blake Huer
Communication/Communicative Disorders
UW-Whitewater

8/85 AMOUNT $8,985

DESCRIPTORS
*Communicative Disorders
Laboratory Social Sciences; Clinical Training

856017 B

# TITLE: COMPUTER SOFTWARE FOR HYDROLOGY/WATER RESOURCES

Water resources problems involve arduous and often complicated number manipulations. Many of the problems involve estimating future occurrences based upon past records. These problems require the mathematical manipulation of large quantities of data in order that the predicted values be statistically significant. Many of these problems are also abstract and difficult to understand without visual assistance. To address these problems, and because students will be entering an environment where microcomputers will be as common as calculators are today, and as slide rules were three decades ago, the Project Directors will develop a package of applied hydrology and water resources management computer programs for use on microcomputers.

The computer programs will be written for use on Apple or IBM machines, and will have detailed users' manuals which will serve as texts to introduce hydrologic theory as well as the mechanics of using the software. The initial client group will be students in hydrology, watershed management and groundwater hydrology at UW-Stevens Point and UW-Platteville. There is a potential for about 475 students per year using these computer programs at the two campuses. Ten of the UW System campuses offer courses in this subject matter area and a potential of one thousand students per year could benefit from this project.

Computer programs and documentation will be developed and adapted during Summer 1985. They will be tested in coursework during the 1985-1986 academic year, and refined during Summer 1986.

The completed project will be evaluated in two steps: (1) when students complete a course in which the computer programs are used, and (2) in the future when the students have been working in the hydrology field for some time. A questionnaire will be developed to determine the success of the project while students are in school and after they have graduated.

Max L. Anderson
Engineering
UW-Platteville

N. Earl Spangenberg
Natural Resources
UW-Stevens Point

8/85

AMOUNT $8,968

DESCRIPTORS
*Natural Resources
Computer Autotutorial

856018 B

TITLE: PARTICIPATION OF WCWC SCIENCE EDUCATORS IN THE DEVELOPMENT OF AN EXHIBIT-BASED SCIENCE CURRICULUM

One recommendation of the recent reports addressing "excellence in education" is the need for improving science education at all levels. This proposal responds to that need by enabling scientists/science educators from the West Central Wisconsin Consortium (WCWC) institutions to participate in workshops at The Exploratorium in San Francisco to develop an exhibit-based science curriculum. Recently, the National Science Foundation has recognized that The Exploratorium's approach to science education is effective.

In contrast to the science education programs in the sixties, where the improvement that resulted from summer institute work disappeared after the institutes stopped, the exhibits on which this curriculum is based remain for the professors' and students' use year after year. Simultaneously, students and parents can return to use the exhibits to continue the process of learning and teaching. It is expected that these workshops can also introduce an effective on-going model for teaching teachers.

During the period of the grant, the WCWC science educators will be developing written materials for an exhibit-based curriculum at the college level, arranging for or constructing the interactive exhibits on which the written material is based, implementing the curriculum and exhibit pedagogy in selected science courses and, for their respective campuses, developing science education courses for teacher preparation, which integrate all of the interactive exhibits. The opportunity to develop the written materials takes advantage of an NSF-funded program at The Exploratorium. With the expertise, exhibit curriculum, and interactive exhibits developed during the period of this grant, the foundation will have been established for developing a workshop in Wisconsin which parallels that of The Exploratorium. Funding for such a parallel workshop would be requested from NSF to validate this approach as a national model.

Wayne W. Sukow
Executive Director
West Central Wisconsin Consortium, et al
410 South Third Street
River Falls, WI 54022

8/85 AMOUNT $10,000

Descriptors
*Faculty Development; *Physics;
Faculty Development; Models; Demonstrations

856019 B

TITLE: FACULTY LIBRARY INSTRUCTION WORKSHOP PROPOSAL

Two of the four West Central Wisconsin Consortium libraries have conducted workshops to inform and involve faculty in the use of library resources. Such workshops can increase student use of the library and improve class work. There are many approaches to library instruction. This proposal seeks to structure faculty development workshop activities to accomplish the following goals:

1. To update faculty understanding of how knowledge is organized; how systematic methodologies of obtaining information can be developed; and what kinds of new technologies and concepts of information retrieval can be developed.

2. To acquire through illustration and examples various methods of accessing information and alternate strategies for a systematic use of the library.

3. To adjust their teaching methodologies in order to incorporate library experience into their course structures.

4. To participate in a forum for the exchange of ideas related to classroom activities which involve the student in library use.

Ten faculty and two librarians from each of the four campuses would attend a two-day workshop conducted in the library of the host institution. A third day of the workshop would be conducted by the librarians on their own campuses to assist faculty in the development and implementation of the library activities designed by the faculty. The impact of this process on students will be measured by their responses to evaluation instruments used to determine student awareness, skill development, and understanding of library organization.

The project will be evaluated in terms of direct benefit to the faculty and librarians who participate in the workshop. One year following the completion of the project a follow-up interview will be conducted to evaluate the inclusion of library skills used in teaching.

Steve Marquardt
Director, Libraries
UW-Eau Claire

8/85 AMOUNT $8,016

DESCRIPTORS
*Faculty Development; *Library Resources
Faculty Development; Library Skills

856020 B

TITLE: INTRODUCTION TO WOMEN'S STUDIES: AN URBAN INDUSTRIAL PERSPECTIVE

The Project Directors will develop a permanent interdisciplinary introductory course in Women's Studies at the freshman/sophomore level. The course would be required for students taking a certificate or minor in Women's Studies at UW-Milwaukee and UW-Parkside. It would also provide a broad overview of the field of women's studies for those students who are interested in gender issues in the context of the traditional disciplines.

Four experienced faculty in the programs (Rachel Skalitzky, Eleanor Miller, Teresa Peck, and Laura Gellott) will develop the course during Summer 1985 and offer it during the 1985-86 academic year. Margo Conk and the UW-Milwaukee Center for Women's Studies will participate in the development of the course through the collection of materials and the provision of technical and administrative support.

Thematically, the Project Directors intend to develop a team-taught course with an interdisciplinary, urban industrial perspective to serve most appropriately the missions of the institutions. The course will have two basic core components, one each in the humanities and social sciences. Students will elect to take the course for humanities or for social science credit. To provide such broad coverage, the two faculty members on each campus will explore the situation of urban women from their own interdisciplinary perspectives (comparative literature, sociology, psychology, and history); they will also provide the students with understanding of ways in which the humanities and the social sciences have treated gender questions and how these approaches provide similar or different insights into the investigation of gender in urban industrial society.

Such an ambitious undertaking will accordingly require the Project Directors to review and evaluate the growing body of women's studies research and theory on the situation of women in urban industrial society. The Project Directors will develop pertinent bibliography, reading lists, and lectures. The result will be a body of course material which the Project Directors will use to teach the course the following year, as well as a more general set of course materials on the situation of women in urban industrial society which will be deposited at the two campuses for use by other faculty.

Margo Conk
History & Urban Affairs
UW-Milwaukee

Eleanor Miller
Sociology
UW-Milwaukee

Rachel Skalitzky
Comparative Literature
UW-Milwaukee

Teresa Peck
Educational Psychology
UW-Parkside

Laura Gellott
History
UW-Parkside

8/85

AMOUNT $13,435

DESCRIPTORS

*Women's Studies
Course Development

856021 C

TITLE: CRITICAL THINKING AND VALUES ANALYSIS ACROSS THE DISCIPLINES

Traditional approaches designed to improve undergraduate teaching and instruction have tended to follow one of two major themes: (1) exposing faculty and staff members to a variety of instructional strategies, technologies, and innovations; or (2) establishing teaching excellence centers for the purpose of sponsoring comprehensive programs designed to facilitate and promote quality teaching.

This project seeks to improve undergraduate instruction by providing faculty and instructional staff members with an opportunity to reflect and focus on the relationships that exist among the goals of liberal learning, intellectual development, and effective teaching by fostering critical thinking and values analysis across the disciplines. The project seeks to accomplish six major objectives which include determining student readiness, analyzing course objectives, incorporating strategies to improve critical thinking and values analysis into specific courses, identifying expectations for students regarding these skills, promoting dialogue with faculty colleagues from other disciplines, and assessing outcomes by comparing those students exposed to these courses with those who were not.

The study is non-experimental in design and is divided into three distinct phases: (1) preparation; (2) participation; and (3) evaluation. Fifty faculty would be selected for participation during the initial year. Students from all areas of the campus would be affected and it is estimated that the number of students affected each semester would be approximately 800.

The proposal builds upon models of previous success at UW-Eau Claire and addresses a timely matter of some significance for students, faculty, and the society which the university serves.

Leonard Gibbs
Social Work
UW Eau Claire

8/85 AMOUNT $20,000

DESCRIPTORS
*Faculty Development; *Basic Skills Critical Thinking
Faculty Development

# GRANTS AWARDED

## 1986 - 87

867001 A

TITLE: COMPUTERIZATION OF INSTRUMENTAL ANALYSIS

Chemists require a working knowledge of computer systems, because virtually every modern chemical instrument includes a computer. This project is an effort to update the ability of UW-Eau Claire Chemistry Department faculty to teach students about the use of microcomputers in collection, manipulation, storage and display of data from instruments.

The instruction will be carried out in Instrumental Analysis (Ch. 462), and later in Quantitative Analysis (Ch. 213) and several other courses. In Ch. 462, students will be taught microcomputer structure, interface electronics, and a little about the software. The laboratory portion of Ch. 462 will include experiments in which students will choose whether to use a computer to collect and manipulate data. The experiments will be designed to reward the computer users with enhancements in efficiency and quality of experimental results. The intent is to encourage the students to recognize the advantages of computers through experience rather than simply to tell them the advantages.

In addition, computer assisted instruction (CAI) programs will be written to present model instruments. In Ch. 213, computer data collection and manipulation routines will be used to demonstrate computer control of instruments.

The project will be evaluated in several ways. Dr. Jerry Mullin, who also teaches Ch. 462 and Ch. 213, will be enlisted to help evaluate the computer systems as they are developed. Standard student evaluations will be collected after implementation of the systems. In addition, recent graduates who have taken Ch. 462 will be sent a questionnaire about what aspects of the computer applications they use in their new positions.

Robert J. Eierman
Chemistry
UW-Eau Claire

8/86 AMOUNT $5,121

DESCRIPTORS

*Chemistry
Computer Autotutorial; Computer Managed Instruction;
Computer Multiple Applications; Computer Problem Solving;
Laboratory Sciences

867002 A

TITLE: COMPUTER EVALUATION OF UNIVERSITY PHYSICS LABORATORY

This project will revise the laboratory curriculum and produce software for the introductory physics course for science and engineering students. These changes will make possible computerized evaluation of student performance.

Effective use of the computer for instruction requires a careful integration of curricular materials and computer programming. The project includes revision of existing experiments, the design and development of new experiments, and the writing of a laboratory manual. It also includes writing computer programs that allow student input of data and results, computer checking of calculations and experimental errors, and programs that provide both student and instructor with a printout of results, experimental analysis, and error comments.

The computer can provide immediate feedback to students on the accuracy of their calculations and the effectiveness of their measurement techniques. This has significant pedagogical and motivational advantages. The capability of the computer to check each student's work completely on an individual basis greatly facilitates the realization of the educational goals of the laboratory experience.

A pilot program has been tested for three semesters by five different instructors. The success and acceptance of the pilot program indicates that the use of computerized evaluation of laboratory work should be extended to include the two full semesters of the introductory courses.

M. James Simonsen
Physics and Astronomy
UW-Eau Claire

8/86 AMOUNT $6,314

DESCRIPTORS
*Physics
Computer Autotutorial Computer Managed Instruction;
Computer Multiple Applications; Computer Problem Solving;
Laboratory Sciences

867003 A

TITLE: THEATRE SET, LIGHTING AND COSTUME MODELS: DEVELOPING FACILITIES AND TECHNIQUES TO ENHANCE ANALYSIS OF RELATIONSHIPS BETWEEN DESIGN COMPONENTS

Design for theatre involves a unique combination of the purely conceptual and visual with the technical and practical. Without technical training and visual comprehension of methods, it is impossible for students to conceptualize and "realize" design in its total complexity. Presently, opportunities and materials necessary to reach these goals within the Design Training program are limited. Instructional weaknesses exist in Scene Design, Scene Painting, Stage Lighting, and Advanced Stage Lighting because of laboratory inadequacies (methods and equipment) and extensive use of University Theatre and Experimental Theatre facilities.

Proposed here is a project aimed at eliminating these deficiencies and at upgrading UW-Green Bay's Design Training program. This project will include development of both teaching/job facilities and instructional methods. The project will consist of creating a scale model (2" per foot) of the UW-Green Bay theatre, adjustable light system and poseable figures; and development of instructional methods which incorporate 3-dimensional photographic and projection techniques developed under a 1983 Undergraduate Teaching Improvement Grant. Merging of the theatre design lab with 3-dimensional photo/projection capabilities will yield exciting new instructional/learning methods that go far beyond those presently available.

Evaluation of project implementation will include both faculty who incorporate the laboratory into their courses and students who work with the laboratory. Quantifiable evaluation of project results is unlikely, however, because of the subjective nature of theatre elements to be analyzed (e.g., space, lighting, etc.).

Jeffery P. Entwhistle
Communication and the Arts
UW-Green Bay

William R. Niedzwiedz
Regional Analysis
UW-Green Bay

8/86

AMOUNT $9,538

DESCRIPTORS
*Theatre
Laboratory Arts; Models

867004 A

## TITLE: SOFTWARE TO SUPPORT TEACHING OF NUMERICAL ANALYSIS

Departments of Mathematics, Computer Science, and Engineering teach numerical analysis. It solves problems intractable with other methods, usually by repeatedly refining an estimate. It finds intersections of curves, fits curves to points, calculates areas under curves, and derives unknown curves. Physical and social sciences, engineering, statistics, business, and agriculture use it widely.

This project will develop software to support teaching of numerical analysis with:

- computer graphics
- formula translation
- numeric displays
- convenient user interaction

The integrated software would run on most IBM-compatible microcomputers, started simply by turning the computer on. The design will be refined in UW-La Crosse courses. Capabilities for graphics, formulas, etc. will support specific methods (finding intersections, fitting curves to points, etc.)

Teaching will improve as students understand concepts better from graphic and numeric displays. Computer speed enables more learning and preparation of more and better examples in a given time period. Users of prototypes have been most enthusiastic.

Evaluations will be based on reactions of instructors and students who use the software. Instructors will be asked to compare grades of students who used the software to grades of students in previous years. Both students and instructors will be surveyed via questionnaire, with appropriate statistical analysis.

Henry C. Thibault
Computer Science
UW-La Crosse

Harold H. Hartman
Computer Science
UW-La Crosse

8/86

AMOUNT $9,037

DESCRIPTORS
*Computer Science; *Engineering; *Mathematics;
Computer Autotutorial; Computer Graphics; Computer Managed Instruction; Computer Multiple Applications; Computer Problem Solving

867005 A

TITLE: COMPUTER ANIMATIONS IN CARTOGRAPHY

This project will develop animations software to teach the principles and mechanics of computer animation and the role of animated maps for analysis of spatial form and process. The project is part of the TROCHOS program, co-sponsored by UW-Madison and IBM, which is intended to promote innovative use of microcomputers in the university curriculum.

Major funding for the animations project has been received from several sources. IBM Corporation has provided $69,000 in computer workstations to produce the software; partial matching funds ($18,000) have been provided by the College of Letters & Science for video recording equipment on which to store the animated maps that will be produced.

Cartographic animations may be used in a variety of applications, for example to visualize global migration patterns of Asian refugees in recent years, to demonstrate the path of the El Nino current and its effects on coastal weather patterns, or to explore a landscape or patch of mapped terrain by simulating the sequence of views that might be seen from an airplane flying overhead. The intention of the project is not to produce any particular map animation, but rather to develop software to teach techniques of map animation to students, and to incorporate animation exercises into the cartography curriculum so that students may produce animations of their own design. The visualization of complex geographical patterns will improve students' comprehension of the relations between spatial form and spatial process.

Course implementation will benefit not only the cartography and geography students, but also the students of surveying, meteorology, landscape architecture, remote sensing, and environmental monitoring who often enroll in cartography and geography courses.

A set of evaluation questions with direct relevance to the courseware will be designed. Part of the IBM grant includes working with the TROCHOS Faculty Support Center on campus to design effective questionnaires for those courses using the animations software. The responses tabulated from student evaluations will allow further tailoring of the animations software to students' educational requirements.

Barbara Pfeil Buttenfield
Geography
UW-Madison

8/86 AMOUNT $2,676

DESCRIPTORS
*Geography
Computer Autotutorial; Computer Graphics;
Computer Managed Instruction; Computer Multiple Applications

867006 A

# TITLE: RAPID FLOWERING BRASSICA AS A MODEL FOR TEACHING PRINCIPLES OF PLANT BIOLOGY

Curricular offerings in plant biology, botany, horticulture, agronomy, genetics, etc., are severely limited by a lack of model plant systems which permit students and teachers the opportunity for observation and experimentation with plants which complete their life cycles in a few weeks.

The development of a unique set of seed stocks of a relative of Chinese cabbage, _Brassica campestris_, has provided an unusual opportunity for the use of live plants in teaching a range of principles of plant biology. Stocks are unavailable commercially or elsewhere. Unique features of these stocks are their rapid development (14 days to flower from sowing, 35 day life cycle, seed to seed), their petite size, and their ability to reproduce at high densities ( 1000/meter square) under classroom conditions. A wide range of mutant types is available. Plants are grown in minipots, with up to a dozen fitting into a space of a coffee mug. In this project, individual students would be provided with seed and be expected to grow, observe, and experiment with several plants following prescribed protocols. The plants are amenable to culture in the classroom or the student's home.

The rapid flowering stocks would be used in the development of a series of exercises initially for use in beginning, intermediate, and advanced classes in plant biology at the University of Wisconsin-Madison with the idea that they will have high transferability to other units in the UW System. Under supervision, two advanced undergraduates will spend the summer of 1986 developing approximately 20 model exercises. Exercise development will involve optimization of plant materials and preparation of syllabi with written and photographic documentation of experimental steps.

Approximately 1000 undergraduates would be targeted each year in Botany 130 (Intro. Bot.), Biology 151 and 152 (General Biology), Biocore 323 (Organismal), Botany 500 (Plant Physiol.), Agron.-Hort. 502 (Plant Breeding). In the fall of 1986, exercises developed during the summer will be used by groups of students in Biocore 323. After use of each exercise, written evaluations will be completed by instructors, teaching assistants and students. Evaluations will focus on the effectiveness of the exercise as a learning experience. Following evaluation, necessary modifications will be made and selected exercises will be "scaled up" and used in the various courses listed above.

| | |
|---|---|
| Paul H. Williams<br>Plant Pathology<br>UW-Madison | Wayne M. Becker<br>Botany<br>UW-Madison |
| 8/86 | AMOUNT $9,700 |

DESCRIPTORS
*Biological Sciences; *Biology; *Botany
Laboratory Sciences; Models

867007 A

# TITLE: TEACHING WEATHER ANALYSIS AND FORECASTING USING THE MAN-COMPUTER DATA ACCESS SYSTEM (McIDAS)

Weather analysis and forecasting in the operational and research settings are undergoing a tremendous transformation. The advent of routinely available satellite data and the proliferation of computers are two aspects of this transformation which are synthesized in the Man-computer Data Access System (McIDAS). This unique, internationally renowned system was developed at UW-Madison by the Space Science and Engineering Center (SSEC). McIDAS routinely ingests meteorological data of all types in real time and allows such data to be manipulated and displayed on a high resolution color graphics terminal. In addition to its use as a powerful research tool, this system is used operationally at the three national forecast centers of the National Weather Service.

Even so, the teaching of weather analysis and forecasting at the UW-MSN, which has one of the biggest meteorology programs in the country, still relies on teletype and facsimile machines of a generation ago. However, this situation is about to change. Thanks to Project TROCHOS, the Department of Meteorology will be acquiring twelve IBM AT microcomputer systems. In addition, SSEC is currently working on a version of McIDAS that will operate on the IBM AT. Thus, within two years, the technological capability will exist to utilize individual McIDAS workstations in the teaching of weather analysis and forecasting.

It is proposed to develop instructional software for use in the implementation of McIDAS in educating meteorologists for the 1990's. The potential benefits of using computers and the McIDAS system in the instruction of weather analysis and forecasting are great. The immediate feedback in interactive tutorial programs will provide an excellent means of teaching basic skills. The capability of overlaying various fields onto satellite imagery will improve student's understanding of the complex interrelationships between various atmospheric quantities. The ability to quickly obtain fields of any meteorological quantity will permit the study of a much larger number of cases than is now possible by hand methods. The increased familiarity with computers will also benefit the students, since computers are essential in the meteorological workplace.

An informal evaluation of all software will be made by the Meteorology 452 and 453 professor and teaching assistants as well as by students. Questionnaires will be used to gain feedback both on specific programs throughout the courses and on the utility of the approach at the end of the courses and a year later.

Patricia M. Pauley
Meteorology
UW-Madison

8/86 AMOUNT $6,951

DESCRIPTORS
*Meteorology
Computer Autotutorial; Computer Graphics;
Computer Managed Instruction; Computer Multiple Applications

867008 A

# TITLE: DEVELOPMENT OF A DAIRY HERD SIMULATOR FOR COURSES IN GENETIC IMPROVEMENT OF DAIRY CATTLE

A computer simulation of genetic aspects of dairy cattle has been used in a senior course in Dairy Cattle Breeding each year since 1966. Through a sequence of 20 executions of the program, students gain 20 "years" of experience in managing the genetic improvement of dairy herds.

The existing simulator has several shortcomings which this project will remedy by developing a new simulator for use in four courses. The new simulator will be a complete revision of the current programs, incorporating new educational objectives and the latest technology in dairy cattle improvement. It would be developed on a microcomputer, permitting students to run the program individually, at their own pace, and explore their own ideas. The new program would provide for a progression of learning experiences, making it suitable for a sequence of undergraduate courses. The first course in the sequence is Principles of Animal Breeding, which is followed by Dairy Cattle Breeding. Also, students could use the simulator in independent study projects. Furthermore, it would be used by students in a diploma program in agricultural production and agribusiness.

Although the current simulator has become obsolete, it provides excellent motivation for students, stimulates their thinking about the problems and issues involved in creating genetic improvement in dairy cattle, and provides countless opportunities to illustrate principles and practices of selection and genetic evaluation in dairy cattle. Finally, it provides realistic experience with tools used in the dairy cattle breeding industry. This experience has special value to students without farm experience.

As part of the simulation exercise in each course, students will be required to write a report outlining their experience with the simulator. As part of this project the Project Directors will be monitoring student use of the simulator and soliciting suggestions from students on a weekly basis during the first year of implementation. This information will be used to make refinements and correct errors in the programs. The system of programs will then be documented and prepared for distribution to other institutions. The simulator would be useful on two other campuses of the UW System (River Falls and Platteville), schools of the Wisconsin Vocational, Technical, and Adult Education system, and at colleges and universities throughout the country.

George E. Shook
Dairy Science
UW-Madison

Margaret R. Dentine
Dairy Science
UW-Madison

8/86

AMOUNT $7,500

DESCRIPTORS
*Agricultural Sciences; *Biological Sciences; *Biology;
*Meat and Animal Science; *Zoology;
Computer Managed Instruction; Computer Simulation

867009 A

TITLE: SLAVIC CIVILIZATION ON VIDEOTAPE

Because of the vast time span and multiple countries covered, civilization courses tend to become diffuse and to drown students in facts, dates, and events. This is a problem for student and teacher alike. Commercial materials (films, slide series) on Slavic countries are few in number and rarely serve as good illustrations of what is presented in the course. This project will produce a series of videotapes for a Slavic Civilization Course. The videos will be produced from slides, color plates, photographs, and maps, and will be designed to reflect and reinforce the main points of the lectures and reading in the course. The videos, integrated with lectures and reading, will provide visual images to jog the students' memories of facts, people, and places, and to help them keep the overall themes of the course in mind. In preliminary experiments with this technique, students have found the videos a valuable adjunct to the course as a means to vary the pace of lectures, to bring parts of the history of these countries alive, and to provide visual images of contemporary life in the Slavic countries.

About 20-30 videos of 30 minutes each will be produced from slides and photographs in the UW-Milwaukee Language Resource Center. By dubbing some of these videos in Russian, the Project Director can also use them in Russian language classrooms, both for their cultural content and as practice in listening comprehension for the students. Assessment of the success of the videos will be largely through questionnaires as part of the course-end student evaluation process.

Charles A. Ward
Slavic Languages
UW-Milwaukee

8/86 AMOUNT $3,444

DESCRIPTORS
*Russian; *Slavic Civilization
Audio Visual TV Taped

867010 A

TITLE: SPIRITIST HEALING IN BRAZIL: TWO INSTRUCTIONAL VIDEOCASSETTE PRESENTATIONS

Spiritism is a fast growing religious movement in Brazil that has its own distinctive healing tradition. Spiritists believe that the spirits of deceased physicians and other healers return to earth and cure the sick through the bodies of those who are spirit mediums.

Edson Queiroz is perhaps the most famous of all the Spiritist healers in Brazil today. Last year, one of the principal investigators spent six weeks with Queiroz, videotaping his work. In all, 20 hours of videotape were produced.

This project is to edit these tapes into two 30-minute instructional videotape presentations. The first will be a general presentation on spiritist healing to raise questions about culture, values, and beliefs. The objective will be to stimulate discussion about alternative ways of thinking and seeing the world. The second will be a documentary about the healer, his beliefs, how he goes into trance, and what he does while in trance. The Project Directors will translate the Portuguese dialogue to English subtitles.

The completed video presentations will be made available not only to undergraduate students of anthropology and sociology but also to students of Latin American studies, religion, history, and nursing.

The project will be evaluated by means of a questionnaire completed by teachers who use the material. The Project Directors will also solicit peer review from colleagues in Anthropology, Educational Communications, Religious Studies and other related disciplines.

| | |
|---|---|
| Sidney M. Greenfield<br>Anthropology/Sociology<br>UW-Milwaukee | John B. Gray<br>Educational Communications<br>UW-Milwaukee |
| 8/86 | AMOUNT $6,812 |

DESCRIPTORS

*Anthropology; *History; *Latin American Studies; *Nursing; *Religion; *Sociology;
Audio Visual TV Taped

867011 A

TITLE: VIDEOTAPE DEMONSTRATIONS OF ASSESSMENT AND MANAGEMENT OF ARTICULATION AND LANGUAGE DISORDERS IN CHILDREN

Prior to beginning their clinical practice experience, undergraduate students in speech pathology and audiology at the University of Wisconsin-Milwaukee (UW-M) are required to observe evaluation and therapy sessions for children with articulation and language disorders. The observations are used to demonstrate the application of principles and techniques to actual clinical cases. Current methods used to provide such demonstrations include: (a) supervised observations of sessions conducted by graduate student clinicians at UW-M, and (b) field trips to observe sessions conducted by professionals in community settings (e.g., public schools, hospitals, etc.). Use of these methods, however, limits the instructor's ability to ensure consistency each semester in the specific principles and techniques demonstrated.

The purpose of this project is to develop a set of eleven 60-minute videotapes and instructional guides demonstrating current principles and techniques being applied in speech-language pathology to assessment and management of children with articulation and language disorders. These videotapes will significantly increase the consistency in the clinical education of the students and thus improve the quality of the undergraduate program in speech pathology and audiology. In addition, the videotapes will have instructional application throughout the UW System (e.g., courses in educational psychology, exceptional education, curriculum and instruction) in demonstrating psychoeducational assessment of and therapy for children with articulation and language disorders. Further, these videotapes will complement a series of videotapes developed at UW-Madison (through UTIG funding) demonstrating characteristics associated with various communicative disorders.

Results of pre- and post-testing of students' knowledge of demonstrated principles and techniques will be used to determine the effectiveness of the videotape demonstrations. It is expected that the videotapes will be highly effective in facilitating students' learning of the principles and techniques presented in course lectures.

Paula M. Pecyna
Speech Pathology and Audiology
UW-Milwaukee

8/86 AMOUNT $5,888

DESCRIPTORS
*Communicative Disorders; *Educational Psychology;
*Elementary Education; *Learning Disabilities; *Special Education;
*Teacher Education
Audio Visual TV Taped

867012 A

# TITLE: INTERACTIVE STATISTICS LABORATORY: A COMPUTERIZED LABORATORY FOR INTRODUCTORY STATISTICS AND RESEARCH COURSES

This project will complete a computer assisted instruction (CAI) package in statistics and research. The package is designed for the IBM-PC and can be used in two ways: first, as a supplement in undergraduate and graduate statistics and research for methodology courses; and second, as a statistics package and review for students in advanced courses which require statistics and research knowledge and activity.

The package (called the Interactive Statistics Laboratory - ISL) is the product of three years of programming and design by the Project Director and two computer programmers/statisticians (former UW-Parkside students), and was inspired by an earlier UTIG (1981/82). The first completely operational version (ISL 1.0) is close to completion.

ISL is unique in the CAI area because it brings advanced screen animation and structured learning to an area of great need. ISL is a first class, well designed, and efficiently programmed package to teach statistical derivations, computational procedures, theory, etc. ISL also provides data handling and (instructor) record keeping capabilities. It should help students by a) supplementing course material during their statistics course, b) providing review of statistics after such a course, and c) serving as a statistics package for subsequent courses and experiences.

The proposal requests funding for the project director, two programmer statistician/designers presently involved in the project, and two new people who have special animation and statistical abilities. All of those involved have considerable experience and training in CAI, program optimization, animation, statistics, or computer screen design, and make up a team uniquely qualified for the task.

Donald A. Walter
Psychology
UW-Parkside

8/86 AMOUNT $8,732

DESCRIPTORS
*Psychology; *Statistics
Computer Autotutorial; Computer Managed Instruction;
Computer Multiple Applications

867013 A

# TITLE: INTERACTIVE DATA ACQUISITION AND ANALYSIS BY MICROCOMPUTERS FOR THE UNDERGRADUATE THERMO-FLUID LABORATORY AT UW-PLATTEVILLE

This project will develop a data acquisition and analysis system for microcomputers to be used in the undergraduate thermo-fluid laboratories (Civil Engineering 331 and Mechanical Engineering 472) at UW-Platteville. Incorporation of this project into the existing courses will benefit both students and instructors in the following ways:

1. Fast computer response allows students more time to investigate the experimental results and, if necessary, to repeat the experiment with additional parameters.

2. Instructors can design more realistic experiments by including some significant parameters which previously were ignored because of the time constraint.

3. The scope of the experiments would be broadened because data can be collected more often over a relatively long time due to the computer's data acquisition capability.

4. Students will be exposed to the latest testing and data acquisition techniques, and also can become more proficient in computer usage.

Instrumentation and computer hardware required for this project will be provided by a matching fund.

A multi-purpose software package will be written in the form of interactive modules which can be called from a main menu. In order to achieve hands-on experience in the use of the micro-computer controlled experiments in the thermo-fluid laboratory, students will be asked to write programs to simulate two experiments. These student-written programs will then be merged with the data acquisition and analysis program to obtain experimental results. This personal involvement will enhance the student's learning experience.

The evaluation of this project will be based on the student ratings of these courses after this project is implemented. Evaluations and opinions will also be sought from alumni working in industry, from instructors who teach these and other related laboratory courses, and from other industrial companies who are connected with the design project offered currently by the Civil and Mechanical Engineering departments.

Lang Wah Lee
Mechanical Engineering
UW-Platteville

Yuan Ling Wang
Civil Engineering
UW-Platteville

8/86

AMOUNT $9,224

DESCRIPTORS

*Engineering
Computer Problem Solving; Computer Simulation; Laboratory Sciences

B67014 A

TITLE: GROUNDWATER VIDEOTAPE

Groundwater is a very important resource that is becoming more polluted by man's activities on the ground surface. It is important that students in a number of disciplines have an understanding of where groundwater comes from, how groundwater moves, and how it becomes contaminated. The visualization of the movement of water under the ground's surface is difficult for many students. The underlying theoretical principles can be described mathematically but the transition from theory to understanding in the real world is often not complete. One way of improving the understanding of the theory of groundwater movement and contamination is through the use of physical models. Groundwater movement is not rapid enough in many cases that movement in a physical model could be demonstrated in a typical lecture or laboratory period. The development of a time lapse videotape of the model would provide a solution to both the problems. The time lapse videotape would allow closeup viewing of the flow of groundwater in the model and a condensing in time of concepts demonstrated by the model.

The model will be built and the videotape will be produced and edited during the summer of 1986. It will be evaluated during the fall of 1986 during the normal course evaluation procedure. Improvements to the videotape will be made after the evaluation.

Max Anderson
Civil Engineering
UW-Platteville

8/86 AMOUNT $2,296

DESCRIPTORS
*Agricultural Sciences; *Engineering; *Environmental Studies; *Geology; *Natural Resources
Audio Visual TV Taped; Demonstrations; Models

867015 A

TITLE: INTERACTIVE MICROCOMPUTER PROGRAMS FOR BOTANY STUDENTS AT UW-RIVER FALLS

The UW-River Falls Biology Department has four Apple IIe Microcomputer systems with accessory equipment sufficient to utilize programmed materials for instructional purposes. However, with the exception of a few generalized programs in biology and two specialized topics on plants, software for botany is nonexistent. Realizing the potential of the microcomputer as an instructional aid, the Project Director will develop autotutorial botany programs for student use. Selection of topics for program development will be on a priority basis; those topics which are of greatest difficulty for students to comprehend will receive highest priority. Animated color graphics will be used to illustrate functional operations of plants. A narrative explanation of each topic will accompany these. All programs will be designed with self-tests and review options associated with incorrect answers. The students will be provided with an instructional manual enabling them to use the programs with little or no additional instruction.

There will be three phases to this project. The first phase will consist of determining which topics will be developed first into microcomputer programs; this was done during the 1985-86 academic year. Next will be the actual development of the programs, which will be done during the period of June-August 1986. Programs will be completed and ready for use by botany students during the 1986-87 academic year. Evaluations will be conducted as the programs are being used. One of the evaluations will be a questionnaire to be completed by the students; the other will be a statistical comparison between test performances of students who have used the microcomputer programs and those who have not.

Carl D. Finstad
Biology
UW-River Falls

8/86 AMOUNT $6,368

DESCRIPTORS

*Biology; *Botany

Computer Autotutorial; Computer Graphics, Computer Managed Instruction

867016 A

# TITLE: ESTABLISHMENT OF A MATHEMATICAL SCIENCES CASE STUDY CLINIC

This project will establish a mathematical sciences case study clinic in the Department of Mathematics/Computer Systems. The clinic is a faculty-directed independent study and seminar in which interested mathematics and computer science undergraduates work together in teams, solving real-world problems that have been identified by the clinic supervisors as suitably challenging for the students. It is designed to help meet the needs of students who desire practical experience in applying mathematical and computer scientific tools and methodologies to a variety of problems found in other disciplines within both academia and industry.

The clinic will help improve students' abilities to work as part of a team, requiring them to exercise and sharpen expository skills useful in an interdisciplinary experience. It will also serve as a natural adjunct to the student internship program, providing pre-internship training, while giving the department a mechanism for evaluating students' potentials before they are hired and begin a formal internship with a company.

The success of the project will be determined by its effect on the existing student internship program, and by its ability to prepare the students for post-graduate employment in the mathematical sciences. This project will help to unify the departmental programs while making them more attractive to today's applications-oriented student.

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|---|---|
| Don Leake<br>Mathematics/Computer Systems<br>UW-River Falls | Eric Level<br>Mathematics/Computer Systems<br>UW-River Falls |
| 8/86 | AMOUNT $6,073 |

DESCRIPTORS

*Computer Science; *Mathematics
Case Studies; Computer Problem Solving; Undergraduate Research

867011 A

# TITLE: CLINICAL PHONETICS: AN INDIVIDUALIZED INSTRUCTION APPROACH

Instruction in the use of the International Phonetic Alphabet is necessary in order for communicative disorders majors to learn how to separate adequate from inadequate speech sound production. Phonetics is used as a tool to identify characteristics of atypical speech sound production. The current phonetics class, CD 260, Introduction to Phonetics, could be individualized and could make more efficient use of a student's and an instructor's time. Therefore, it would be worthwhile to introduce an automated, videotaped, computer-assisted phonetics course.

Modules of study will be developed to expose students to International Phonetic Alphabet symbols. A manual will be written so that students will have an aid to assist in the examination of the characteristics of each symbol. Information related to the content of each module will be videotaped. Transcription and translation drills and quizzes will be available through the use of videotaped segments and computer programs. The instructor of the course will present the first module to the entire class. Progress of the students through the remaining modules will be self-paced and monitored through the use of computer record-keeping systems.

The efficiency and effectiveness of this self-paced, automated form of instruction will be examined as students complete the course. Retention of information will also be considered after the completion of the course and before the students enroll in a course concerned with articulation disorders, which is offered during the enrollment period after phonetics is completed. Evaluation of the content of the course material and its adequacy as a tool for identifying atypical speech production will be obtained by questionnaires at the end of each module and through the use of an already operational course evaluation form within the School of Communicative Disorders.

Judith E. Pratt
Communicative Disorders
UW-Stevens Point

8/86 AMOUNT $4,040

DESCRIPTORS
*Communicative Disorders
Audio Visual TV Taped; Computer Testing; Individual Pacing; Modular Instruction; Workbooks

867018 A

TITLE: THE PRODUCTION OF VISUAL MEDIA RESOURCES ON WOMEN'S ART FOR INTEGRATION INTO ART HISTORY AND INTERDISCIPLINARY WOMEN'S STUDIES COURSES

In university art history classes at all levels and specialties, the traditional method of transmitting knowledge about artists has been, and continues to be, through the projection of slide transparencies. Every university maintains a slide library to serve this purpose.

Due to exclusion from textbooks, lack of visual coverage of women's art shows, and restrictive copyright laws of what little materials exist in journals and private galleries, instructional slide transparencies illustrating women's art forms are very difficult to obtain. The collection of 500 slides from Harper and Row Publishers is limited in scope and generally poor in quality. Thus, the increasingly unfolding role of women artists in history is largely undocumented, except for a half dozen very prominent artists, such as O'Keeffe and Cassatt. Therefore, relevant information about women artists is mostly omitted from art history courses.

The purpose of this project is to generate new, expanded visual materials of women's art works for inclusion into the content of History of Art Survey (125 students per year), Art Appreciation (500 students per year), Women in Art (35-50 students per year), and several specialized and interdisciplinary Women's Studies courses.

The procedure will include on-site photography of art works at the newly opened (1984) National Museum of Women's Art and the Washington Women's Center of Art in Washington, D.C., which house 325 works by women artists from all periods. Additional photographs will be taken at the Milwaukee Museum of Art, the Art Institute of Chicago, the Toledo Museum of Art, the Chicago Field Museum and the National Gallery of Art, all of which house some examples in their permanent collections. The photographing and cataloging of art works will be undertaken by the Project Director, who is an art historian with years of museum photography experience. The end result will be the production of 1) 700 slide transparencies of various views and details of 350 works, and 2) the compiling of 300 prints into a women's art portfolio for students' study reference, especially designed for use in the Women in Art course.

Evaluation of the project will be determined by the quantity and quality of visual materials produced, and by student responses to the materials as indicated on standard course evaluation forms. Special questions will be added to the evaluation forms to assess student reactions to the materials produced by this project.

Janet A. Anderson
Art
UW-Whitewater

8/86 AMOUNT $5,922

DESCRIPTORS
*Art; *Interdisciplinary; *Women's Studies
Visual Slides

867019 B

TITLE: DEVELOPMENT OF INSTRUCTIONAL SOFTWARE FOR COMPUTER AIDED DESIGN OF APPAREL

The goal of this project is to improve undergraduate instruction in apparel design by developing instructional computer aided design (CAD) software for flat pattern design. Flat pattern design is the most widely used method of pattern design in the apparel industry. The apparel industry is on the verge of a technological revolution; with the proper background, textiles and design graduates will be in the forefront of shaping this new technology as well as in using it.

The development of this software will improve undergraduate education by:
1) increasing learning speed and mastery of flat pattern design;
2) increasing the competitiveness of graduates on the present job market; and
3) preparing students to participate in shaping the future of apparel technology.

No instructionally oriented CAD software for flat pattern design is available commercially; however, a growing number of potential employers expect to hire designers who have CAD experience. CAD software that is commercially available to the apparel industry is production-oriented and does not completely satisfy the needs of instructional applications. It is prohibitively expensive for most educational institutions; the least expensive systems cost close to $100,000.

The software that will be developed in this project will emulate manipulations that are now done by hand, have the capability to be incorporated into computer mediated tutorial software, and run on personal computers, which are available on most campuses. The usefulness of this software will not be limited to the University of Wisconsin System, but will extend to any institution that teaches flat pattern design.

The software will be implemented and tested jointly by three System campuses: Madison, Stevens Point, and Stout. F. Heisey (Madison), with the assistance of a computer programmer, will have responsibility for design, coding, and documentation of the software. All three campuses will participate in evaluating the software during the pilot stage. The success of the project will be evaluated by comparing student competence achieved with and without CAD.

Francesann Heisey
Family Resources and Consumer Sciences
UW-Madison

Annette Fraser
Apparel, Textiles and Design
UW-Stout

Virginia Baeten
Home Economics
UW-Stevens Point

8/86 $24,348

DESCRIPTORS
*Design; *Home Economics; *Textiles
Computer Autotutorial; Computer Graphics; Computer Managed Instruction

867020 B

TITLE: COMPUTER MAPPING FOR GEOGRAPHIC ANALYSIS AND PROBLEM SOLVING

The purpose of this project is to acquire and make operational an easy-to-use spatial analysis/computer mapping system. The same system will be used at both UW-Eau Claire and UW-Whitewater. Software, data bases, and faculty expertise will be shared between the two campuses.

Designed primarily for geography majors/minors, the system will be initially utilized in a specific set of courses on each campus. Students will be able to access large amounts of data, perform more sophisticated statistical analyses, and easily produce a series of maps in a short time. The time required to manipulate and analyze information and draft maps will be considerably reduced, thus permitting more time for writing and rewriting research reports. Students will be able to explore alternative data analysis techniques and mapping applications.

This program improvement is needed if geography graduates are to be competitive in graduate school and today's increasingly technologically-oriented job market. The system will be evaluated separately by students and faculty during the first year of operation and improved and updated.

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|---|---|
| Brady Foust<br>Geography<br>UW-Eau Claire | Sean Hartnett<br>Geography<br>UW-Eau Claire |
| Howard Botts<br>Geography<br>UW-Whitewater | John Patterson<br>Geography<br>UW-Whitewater |
| 8/86 | AMOUNT $19,516 |

DESCRIPTORS

*Geography
Computer Graphics; Computer Managed Instruction

867021 B

TITLE: DISCRETE MATHEMATICS IN THE UNDERGRADUATE CURRICULUM

With the advent of the computer, the mathematical needs of our students have changed. Recognizing the changes taking place on a national scale, members of the mathematics departments of several campuses of the University of Wisconsin System formed a Consortium of University of Wisconsin Campuses for the Study of the Mathematics Core Curriculum (hereinafter called the Consortium). This group, consisting of faculty of the UW Centers and eight of the four-year campuses of the UW System, has been meeting periodically for two years to study the emerging curriculum, and in particular, the integration of discrete mathematics (the mathematics used by computer scientists) into the mainstream of the mathematics core curriculum in such a way that it would be of use to most of the students who take core mathematics courses.

Based on the deliberations of the Consortium, and acting on its behalf, the Project Directors plan to develop annotated problems for the Consortium for the benefit of faculty considering the inclusion of discrete mathematics in the core curriculum.

Since there will undoubtedly continue to be much ferment in the core curriculum, the Consortium will continue to function following the development of these problems in order to stay abreast of the changes in the core mathematics curriculum at the UW institutions. In a sense, then, this project will be self-evaluating. The problems will be distributed to all members of the Consortium as well as the mathematics departments of all institutions of the UW System.

Ronald Gutschow
Mathematics
UW Center-Waukesha

Andrew Matchett
Mathematics
UW-La Crosse

Harald Ness
Mathematics
UW Center-Fond du Lac

8/86

AMOUNT $6,000

DESCRIPTORS
*Basic Skills Mathematics; *Computer Science; *Interdisciplinary; *Mathematics
Academic Program Revision; Computer Multiple Applications; Course Development

867022 C

TITLE: TEACHING IMPROVEMENT AND FACULTY DEVELOPMENT THROUGH EVALUATION

Evaluation of college faculty has grown during the last decade. This growth is evidenced by the increasing numbers of institutions using formal evaluation procedures. The scope of evaluation has also grown, involving not only student ratings, but colleague evaluation and self-reports. The importance of evaluation is increasing as mobility of faculty and financial support for institutions are decreasing.

Most evaluation procedures were established to promote development and improvement, but have been adopted for use in personnel decisions. A good evaluation system can address both purposes, although not necessarily with the same data from the same sources.

This project will develop an effective evaluation system that will 1) promote growth and improvement, and 2) produce useful and valid data for retention, tenure, and promotion decisions. This does not necessarily require that more evaluation be done, but may involve less, done more appropriately and effectively.

Development of the system will be handled by a faculty/administration task force, which will examine alternative evaluation instruments and procedures, provide information to and seek feedback from faculty, administrators and department chairs, and recommend a multi-faceted evaluation system that can be used for a variety of purposes.

The success of this project will be evidenced by changes in evaluation policies and procedures on the UW-Stevens Point campus, and by the use of evaluation results as a basis for improvement projects by individual faculty.

Sandra Holmes
Center for Professional and
  Personal Development
UW-Stevens Point

8/86 AMOUNT $14,800

DESCRIPTORS
*Faculty Development